# BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, WESTERN ZONE BENCH AT PUNE

**APPEAL NO OF 2022 [WZ]**

**BETWEEN:**
PRAVIR PRABHAKAR FADTE AND ORS.
**...APPELLANT**

**AND**

THE MINISTRY OF ENVIRONMENT,
FORESTS & CLIMATE CHANGE AND ORS.
**...RESPONDENTS**

## SYNOPSIS AND CHRONOLOGY OF DATES AND EVENTS

This appeal challenges the Environment Clearance (EC) order dt. 24.01.2022 which enables the Resp.No.3 (Vedanta Ltd) to expand the capacity of the 3 pig iron plants at Amone and Navelim villages, north Goa, in addition to adding on other plants as well, on the grounds that the Respondent's plant, as per its own data submitted as part of its EIA report for EC, was found to be regularly exceeding the annual average norms for $PM_{10}$ laid down under the National Ambient Air Quality Standards. Thus, if existing air quality is already unhealthy around the plant, decision makers should reject any project that would further worsen air quality of the location.

Further, there is no assessment of environmental impact of the enhanced pollution load on the health of the resident communities of Amona, Navelim, etc.

Most significantly, the impugned EC does not deal with the chronic and incurable air pollution emanating from this plant, especially the graphite emissions which have continued relentlessly. The technology installed is inefficient even for current operations as per the conclusion made in the report on the Environmental Audit (2021) conducted by the GSPCB in the months immediately prior to grant of EC.

Grant of EC should not be based on paper and adjourned compliance. It should provide effective environmental relief for the public and the proceedings should not be reduced to a farce, as has been done in the present case. Hence this Appeal.

## CHRONOLOGY OF DATES AND EVENTS

| **Sr. No.** | **Date** | **Particulars of events or documents if any** | **Annexure and page** |
|---|---|---|---|
| 1. | 1992 | Pig iron plant set up on land taken on lease from Comunidade of Amona for 20 years. | |
| 2. | 10.02.2002 | Navelim village area is carved out for industrial estate (IE) and notified under IDC Act. Amona village is not part of the industrial estate. No EC obtained for the IE. | |
| 3. | December 2004 | CMRI is recruited to file a report on air pollution with recommendations, after complaints made. Plant owners also contact Central Pollution Control Board. | |
| 4. | 30.07.2007 | Vedanta applies for EC for new proposal within the Navelim industrial estate, but claims in effect that it is an | |

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| | | "expansion" of the existing plant commenced in Amona village in 1992 which is outside the industrial estate. Objective is to double the pig iron production from 2,10,000 to 4,95,000 TPA. Public hearing is denied claiming the project falls within an industrial estate. However, the industrial estate itself, notified in 2002, does not have an EC till date. | |
| 5. | 2008 | Public interest WP filed by the Amona Bachao Andolan for plant closure due to continuing air pollution and other negative environmental impacts from the plants. | |
| 6. | 23.06.2008 | NEERI is appointed through HC to do a REIA. | |
| 7. | 29.12.2008 | NEERI submits report with recommendations including Air Environmental Management Plan. PCB issues directions on 27.02.2009 for implementing the recommendations. | |
| 8. | 03.06.2009 | Environment clearance is granted for "expansion" of the plant in the form of new blast furnace, which in fact is a new plant in Navelim industrial estate. | |
| 9. | Oct 2010 | PIL 4/2011 is filed challenging the EC granted on the basis of misleading information that the new plant in Navelim industrial estate is an expansion of the two plants in | |

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| | | Amona village which are located outside the estate. | |
| 10. | 2013 | PIL Writ Petition No.4/2011 is disposed of by a judgment, which is appealed in the SC. | |
| 11. | 07.11.2016 | Supreme Court directs the appeal to the National Green Tribunal for consideration. Renumbered before NGT as OA No.111/2017 | |
| 12. | 04.12.2017 | NGT hears the matter and agrees with the contention of the petitioners that the new plant cannot be called an “expansion” of the two Amona blast furnaces. However, NGT directs the MOEF&CC to grant a hearing to the petitioners and pass appropriate orders. | **Ann. 3,** at pgs. 51 - 54 |
| 13. | 31.08.2018 | MOEF&CC sends a team of officials to the plant. The team goes out of its way to establish that, despite what the NGT had concluded, the plants are one integrated complex. The team merely recommended additional conditions to the 2009 EC. | |
| 14. | 2018 | High Court considers fresh petition complaining of lack of implementation of NEERI recommendations. This is ten years after the Board had issued directions. Court passes an order on location of testing units around the plant. | |
| 15. | 9th -11th January 2019 | EAC approves TORs for fresh EC for proposal regarding modernization and expansion of the project involving all the | |

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| | | units. (Beneficiation plant is not included.) | |
| 16. | August-September 2019 | EAC considers the report of the MOEF&CC Regional Office Committee favourably and adds additional conditions to the 2009 EC. | |
| 17. | 28.08.2019 | PCB issues directions for additional bag house filter for the second BF, so there will be two in operation, one each for BF1 and another for BF2. The additional bag house filter is to be installed by October 2019. | |
| 18. | 04.12.2019 | Time for additional bag house is extended to 31.03.2020. | |
| 19. | 07.01.2020 | Modified EC issued for Vedanta plant, pursuant to NGT order dated 04.12.2017. | **Ann. 4,** at pgs. 55 - 60 |
| 20. | 09.07.2020 | Show cause notice issued by the Goa State Pollution Control Board to the Resp. No. 3 company, *inter alia* for Particulate Matter exceeding stipulated limits. | **Ann. 5,** at pgs. 61 - 96 |
| 21. | 2021 | Contempt petition filed for non-implementation of High Court's order on bag house | |
| 22. | 02.07.2021 | Goa State PCB submits compliance report to the MOEF and CC regarding compliance with EC by the Resp. No. 3 | **Ann. 6,** at pgs. 97 - 118 |
| 23. | 12th – 13th Aug. 2021 | REAC in its 42nd Meeting decides to return proposal for expansion / modification made by Resp. No. 3 | **Ann. 7,** at pgs. 119 - 150 |

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| 24. | August 2021 | Environment Audit Report of M/s Vedanta prepared by GSPCB based on site visits by the Expert Committee on 30/09/2021 and 31/08/2021 | **Ann. 11,** at pgs. 233 - 254 |
| 25. | 31.08.2021 | Show cause notice issued by the Goa State Pollution Control Board to the Resp. No. 3 company, *inter alia* for non compliance with several EC conditions | **Ann. 8,** at pgs. 151 - 166 |
| 26. | 29.12.2021 | REAC in its 50th meeting recommends grant of EC to the Resp. No. 3 company | **Ann. 13,** at pgs. 267 - 316 |
| 27. | 14.01.2022 | GSPCB issues directions to the Resp. No. 3 based on the recommendations of the environmental audit | **Ann. 12,** at pgs. 255 - 266 |
| 28. | 24.01.2022 | EC is granted to the Resp. No. 3 by the MOEF and CC, for expanded production capacity and diversification, which is now sought to be quashed and set aside via this appeal. | **Ann. 1,** at pgs. 34 - 45 |
| 29. | 24.05.2022 | Present Appeal is filed | |

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**APPEAL NO OF 2022 [WZ]**

**BETWEEN:**

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**...APPELLANT**

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**PLACE** – MAPUSA, GOA
**DATE** – 24.05.2022

Advocate for the Appellant

NOTARY
Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date 29/01/2025
GOVT. OF GOA (INDIA)

## BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, WESTERN ZONE BENCH AT PUNE

### APPEAL NO OF 2022 [WZ]

(Under Section 18(1) read with Sections 16 and 17 of the National Green Tribunal Act, 2010)

1. **PRAVIR PRABHAKAR FADTE,**
   age 46 years, son of Prabhakar Fadte,
   H.No. 180/2, Betalwada, Amona,
   P.O. Marcela, Goa – 403107,
   Contact No. - 8830926934.
   Email id - fadtepravir108@gmail.com.

2. **SAMEER BABLA BHAGAT,**
   aged 41 years, resident of 416,
   Bhagat Wada, Amona,
   Marcela, Goa – 403107,
   Contact No. - 9130981345.

3. **DEVANAND SAGUN SINARI,**
   age 42 years, resident of H. no. 156,
   Pimpalwada, Amona, P.O. Marcella,
   Bicholim, Goa – 403107,
   Contact No. – 9767332578,
   Email id – devanandsinari@gmail.com.

4. **NARAYAN RAGHUNATH SAWANT,**
   age 45 years, businessman,
   resident of H. No. 343, Khar Wada,
   Amona, Marcela, Goa – 403107,
   Contact No. – 9764269761.

5. **THE GOA FOUNDATION,**
   through its Secretary, Dr. Claude Alvares,
   age 74 years, Having Regd. Office at
   Room No 7, Above Mapusa Clinic,
   Mapusa, Goa - 403507
   Contact No. – 9674390308.
   Email id: goafoundation@gmail.com ... **APPELLANTS**

AND

1. **THE MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE**,
   through its Secretary, Indira Paryavaran Bhavan,
   Jor Bagh Rd, New Delhi - 110003,
   Email id – mefcc@gov.in,
   Contact no. – 011 - 24645586.

2. **THE GOA STATE POLLUTION CONTROL BOARD**, through
   its Member Secretary,
   Near Pilerne Industrial Estate,
   Opposite Saligao Seminary,
   Saligao, Bardez, Goa – 403511,
   Email id- mail.gspcb@gov.in,
   Contact No. - 0832-2407700.

3. **VEDANTA LIMITED - VALUE ADDITION BUSINESS**
   Pig Iron Division, Amona, Bicholim Taluka,
   PO Marcela, Goa – 403107,
   Email id: ironore.communications@vedanta.co.in,
   Contact no. - 0832 – 2385404/ 0832- 6412160.

4. **THE STATE OF GOA**,
   Through its Chief Secretary,
   Having office at Secretariat,
   Porvorim, Goa - 403521,
   Email id: cs-goa@nic.in,
   Contact No. - 0832-2419402.

**...RESPONDENTS**

Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025

[Above are all registered addresses of the parties]

**THIS APPEAL MOST RESPECTFULLY SHOWETH:**

1. The address of the Appellant's counsel is given below for the service of notices of this Appeal.

2. The addresses of the Respondents are given above for the service of notices of this Appeal.

## FACTS OF THIS CASE:

3. This Appeal challenges the Environment Clearance (EC) order dt. 24.01.2022 which enables the Resp.No.3 to expand the capacity of the 3 pig iron plants at Amone and Navelim villages, Goa in addition to adding on other plants as well. The pig iron plants have been operating under an EC first granted in 2009, though the plants originally commenced production from 1992. The 2009 EC was further modified by an order dated 2017, pursuant to an NGT order. The production capacity of existing and (proposed) expansion is given in the table below for easy reference:

| **Existing Industry (2009)** | **Expansion Proposals (2022)** |
|---|---|
| Mini blast BF 1&2 (Amona): 2,92,000 TPA<br>(Set up in 1992)<br>BF 3 (Navelim): 5,40,000 TPA<br>(Set up in 2009) | Up-Gradation of Blast Furnaces (BF) to Enhance the Production Capacity of BF-1 & 2 (Amona) from 2,92,000 TPA to 3,50,000 TPA,<br>BF-3 (Navelim) from 5,40,000 TPA to 6,50,000 TPA<br>Setting up of Additional Oxygen Plant, Installation of Ductile Iron Pipe Plant of 3,00,000 TPA capacity. |
| Battery I: 84 ovens: 3,22,000 TPA<br>Battery II: 72 ovens: 3,00,000 TPA | Setting up of Fe-Si plant of 5,000 TPA<br>4 additional Met Coke ovens |

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| | |
|---|---|
| Captive Power Plant: 595 Million Units | Captive Power Plant: 595 Million Units |

**Points to be determined in the appeal**

4. It is the case of the appellants that:

a) The EC for expansion of pig iron plant capacity and additional diversification could not have been granted as the Respondent's plant, as per its own data submitted as part of its EIA report for EC, was found to be regularly exceeding the annual average norms for PM10 laid down under the National Ambient Air Quality Standards. Thus, if existing air quality is already unhealthy around the plant, decision makers should reject any project that would further worsen air quality of the location.

b) The impugned EC does not deal with the chronic and incurable air pollution emanating from this plant, especially the graphite emissions. When the pollution from the existing plant itself is adversely affecting the environment and health of the local communities and thereby violating their fundamental rights to clean environmental air guaranteed under Article 21 of the Constitution, where is the question of granting an EC for expansion?

c) That the technology installed is inefficient even for current operations as per the conclusion made in the report on the Environmental Audit (2021) conducted by the GSPCB in the months prior to grant of EC;

d) The EC ought to have insisted that the Respondent's plant must meet the requirements of pollution control norms of its home country (UK); and

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e) Consider better alternatives to the technology than the one being approved in the EC. The alternative should be more suited to a country that has given itself targets to limit carbon emissions. It should not be permissible to endorse a plant for EC that does not have any commitment to this or has no justification provided for continuing to use old technologies based on coal. This fact is not considered while granting EC. The EAC has simply followed a mechanical approach, and hence there has been no progress in terms of ensuring industry meets the mandates of climate change actions plans adopted by the country. Intergenerational equity and sustainable is declared law of the land.

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5. The questions this Tribunal may like to consider:

a) Did the EAC not know that the present plant at present capacity had several unresolved issues, including violation of air quality standards for ambient air, and that these issues (especially the problem of graphite pollution) remain unresolved even after several technical committees, including NEERI, had provided recommendations and suggestions, and all had failed?

b) Unless and until these problems are resolved, could the decision to allow plant expansion – which would lead to enhanced levels of pollution and distress for the local community, affecting their rights under Article 21 – be sustained? Is an EC for expansion at all permissible in such circumstances?

c) Should the EC not be set aside till the existing problems associated with compliance of environmental standards and current industrial operations at pre-expansion capacity are resolved?

d) Should the plant not be ordered to close operations in order to install adequate pollution control equipment for compliance of environmental standards as directed by the concerned authorities, and switch over to better technology in view of the country's international commitments connected with reduction of carbon emissions in light of climate change challenges facing the country and the planet?

e) Could the EC have been granted for a proposal on land which the company may be in possession of, but which it has never owned and it may have to return? Must the consent of the owner of the land not be made available prior to grant of EC. Can an EC be granted conditional to decisions in court cases relating to land ownership?

A copy of the impugned EC dated 24.01.2022 is enclosed at **Annexure 1** to this appeal.

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**Factual matrix of the appeal:**

6. The villages of Amona and Navelim are rural environments, traditionally enjoying pure water and 100% pure air, till the efforts of the Resp.No.3 to erect pig iron plants on a plot of land taken on lease from the Comunidade of Amona in 1992. At initiation, it appears from the records that the pig iron plant was accompanied by a dry beneficiation plant.

7. Almost from day one, the operations of the respondent industry have been subject to numerous petitions and PILs which have attacked its disregard for the health and environment of the village communities surrounding the plant. It is the respondent industry that introduced the curse of graphite emissions in the local environment which is not going away despite recommendations from the best brains in the country. Latest photos of graphite pollution taken in adjacent villages are enclosed at **Annexure 2 Colly**.

8. As a result of the public interest litigation, NEERI was appointed to look into the issues of pollution and to make recommendations in 2008. But even before the NEERI recommendations could be effectively implemented, the respondent company nonchalantly

applied for an EC for expanding its plant – which was granted despite the situation on the ground, setting a bad precedent.

9. The EC granted in the year 2009 was challenged before the High Court. It is not disputed that the two earlier blast furnaces were erected in Amona village without having to obtain an EC, as they were erected prior to the 1994 EIA notification.

10. The PIL was finally disposed of in 2013. The petitioners, thereafter, moved an appeal before the apex court. The apex court, by an order in 2016, directed the NGT to take up the matter. After a hearing, the NGT, by its order dated 04.12.2017, disposed of the matter with the finding that the EC spoke of an expansion, but that this was not an expansion, but two separate industrial units in separate locations. It requested the MOEF&CC to hear the petitioners and take appropriate decisions thereafter. Copy of the NGT order dated 04.12.2017 is enclosed at **Annexure 3**. The MOEF&CC, however, refused to recall the EC or hold a public hearing. The petitioners filed a written representation (being unable to meet the costs of traveling to Delhi). However this is not the same as having a duly constituted PH, as required by law, in the villages concerned.

11. In the meanwhile, the MOEF&CC deputed a committee from its regional office at Bengaluru to visit the plant and file a report. This committee visited the plant site on 31.08.2018, without notice to the petitioners. The report of the MOEF&CC committee, however, sought to undo the NGT's finding that the newly added plant (a new blast furnace in Navelim village) could not be considered as an "expansion" of the existing plant on specious and incorrect grounds and facts. It made some fresh recommendations, however. These conditions were now added to the 2009 EC which was reissued as a modified EC in the year 2020. A copy of the modified EC dated 07.01.2020 is enclosed at **Annexure 4**. It is to be reiterated that simply adding more and more conditions has only ended up making the ECs bulkier without any promise of dealing with the basic environmental issues arisen due to the industrial operations at these

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plants, and compliance of environmental and the pollution standards notified under the Environmental (Protection) Act, 1986 and Rules made thereunder.

12. That the overseeing of the regulatory norms relating to the plants comprised mere paperwork is indicated by a Show Cause notice dated 09.07.2020 issued to the Resp.No.3 relating to continuing emissions in excess of existing norms, after complaints were filed by petitioners. A copy of the SCN dated 09.07.2020 is enclosed at **Annexure 5**.

13. But even while this was under review, the said industry, namely, Vedanta in 2019 filed yet another proposal for another EC for further expansion in capacity and for diversified production including manufacture of ductile pipes and oxygen plant (EC impugned herein). The TORs for the new proposal were issued vide letter dated 06.03.2019.

14. On this occasion, the EAC, while considering the application for EC, also perused the report of the Goa SPCB dated 02.07.2021 relating to implementation of the conditions laid down in the 2009 EC. It thereafter took a decision to reject and return the expansion proposal as the Board's report indicated several instances of non-compliance. A copy of the Board's report to MOEF&CC dated 02.07.2021 is enclosed at **Annexure 6**.

15. The decision of the EAC to return the proposal is reflected in the minutes of the EAC, the relevant extract of which is enclosed at **Annexure 7**.

16. Pursuant to the EAC decision to return the proposal, the MOEF&CC dutifully issued a show cause notice dated 31.08.2021 to the respondent industry on why its EC dated 2009 should not be canceled. Among other issues, the SCN listed the following major issues:

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a) According to the certified compliance report of the GSPCB, the PP is yet to comply with the conditions pertaining to treatment of stormwater discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilisation, installation of CAAQMS, secondary emission control during charging / material tapping / slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB also is in receipt of a complaint from the resident of Dhakalmania wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the industry and storm water without any settling had flown to village Temple lake.

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b) As per the ambient air quality monitoring carried out by the GSPCB, at adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

c) Zero liquid discharge has not been achieved by the industry till date as the blowdown from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, a large quantity of slag (45,000 Tons) is stored at the site. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

d) There are 18 sites of archaeological importance in the study area. In this regard, no approval / clearance from the Archaeological Survey of India has been obtained till date although the industrial unit has been under operation since 1992.

e) There are 7 schedule I species (as per Wildlife Protection Act) in the study area. In this regard, the requisite wildlife conservation plan has not been prepared and implemented till date although the unit is under operation since the year 1992.

f) The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha as against the requirement of 135,000. Moreover, Green belt has not been developed all along the periphery of the site.

A Copy of the Show Cause Notice dated 31.08.2021 is enclosed at **Annexure 8**.

17. Even while these developments were underway, the state administration attempted to organize the mandatory public hearing (PH) related to the EC for the expansion/diversification proposal in the year 2019. A PIL brought the PH process under direct supervision of the Bombay High Court, which directed the PHs be held on different dates in two places: Amona and Navelim.

18. At the PHs, there was almost universal opposition to the proposal for expansion and diversification of the industrial unit due to social, health and environmental concerns. Minutes of the two PHs are enclosed at **Annexure 9 Colly**. Most important submission made in the PHs was the demand to know how the MOEF&CC could consider an application for EC for expansion of the plant and its facilities, when the existing plants were not compliant with stipulated environmental standards and norms.

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19. The Goa Foundation also provided its own set of objections to the industrial plant expansion. These are related to violation of present air pollution related standards by the plant. However, these do not find any place in the EAC's consideration of the proposals for expansion. There is no discussion of these objections throughout the 45 pages of EAC minutes. The Goa Foundation, for example, raised

the following issues, while objecting to an EC for expansion of production facilities at the plant:

> "The existing plant is already a health hazard to the communities surrounding it. Neither NEERI nor the Board has been able to satisfactorily reduce and eliminate the air pollution, especially reflected in the discharge of graphite. The expansion proposals indicate an enhancement of air pollution levels which cannot be either accepted or permitted. The EIA does not indicate the possible impacts of the enhanced load on public health. There is enough scientific data available today which correlates enhanced levels of air pollution with increased morbidity levels and death. If this expansion is allowed, India's commitment to meeting its climate change-related emission goals would be endangered for several decades. The EIA ought to have discussed proven alternatives."

A copy of the representation dated 20.03.2021 sent to the Goa State Pollution Control Board, the agency that conducted the PH prior to consideration of the matter by the EAC, to be included as part of the public hearing record of objections in relation to the expansion proposal, is enclosed at **Annexure 10**. The letter provides detailed facts drawn from the EIA itself. Appellants crave leave to produce and rely upon the EIA if and when required in these proceedings.

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20. First, in relation to violation of existing air pollution control norms, the GF representation, based on facts provided in the EIA generated by the company's consultants, submitted:

**Baseline air quality data from the EIA report shows that Vedanta Limited iron plant is causing impermissible levels of air pollution**

Assessments of how a project may impact air quality begins with characterizing existing (baseline) ambient air quality. If existing air quality is already unhealthy, decision makers should reject any project that would further worsen air quality of the location.

The Government of India has enacted the following set of National Ambient Air Quality Standards for common air pollutants:

| Sl. No | Pollutant | Time Weighted Average | New Standards (Schedule VII, Rule 3 (3B) $16^{th}$ Nov 2009 | |
|---|---|---|---|---|
| | | | Concentration in ambient air | |
| | | | Industrial Area Residential, Rural & other Areas | Ecologically sensitive area (Notified by Central Govt) |
| 1 | Sulphur Dioxide(SO2) | Annual Avg* | 50.0 µg/m3 | 20.0 µg/m3 |
| | | 24 hours** | 80.0 µg/m3 | 80.0 µg/m3 |
| 2 | Oxides of Nitrogen as NO2 | Annual Avg* | 40.0 µg/m3 | 30.0 µg/m3 |
| | | 24 hours** | 80.0 µg/m3 | 80.0 µg/m3 |
| 3 | Particulate matter (size less than 10µm) | Annual Avg* | 60.0 µg/m3 | 60.0 µg/m3 |
| | | 24 hours** | 100.0 µg/m3 | 100.0 µg/m3 |
| 4 | Particulate matter (size less than 2.5 µm | Annual Avg* | 40.0 µg/m3 | 40.0 µg/m3 |
| | | 24 hours** | 60.0 µg/m3 | 60.0 µg/m3 |

Each of the four pollutants in the table above has *two different numerical limits*: one for an annual average period and one for a daily (24-hour) average period. The numerical limits for annual average periods are always lower than numerical limits for average periods because the quantity of pollutants we breathe in, and hence the overall impact of ambient levels of pollutants, depends on the duration of our exposures.

Seeking environmental clearance for expansion, the project proponent monitored air quality at the following locations:

## DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

| Station Code | Name of the Station (AAQ) | Distance from the Plant Boundary (km) | Direction w.r.t Boundary |
|---|---|---|---|
| AAQ1 | Proposed DI pipe plant site | - | - |
| AAQ2 | Existing hot metal plant | - | - |
| AAQ3 | Amona | 0.6 | NW |
| AAQ4 | Sanquelim | 4.0 | NNE |
| AAQ5 | Phanaswadi | 3.0 | E |
| AAQ6 | Pissurlem | 8.1 | E |
| AAQ7 | Cotombi | 7.0 | SE |
| AAQ8 | Savoi Verem | 5.9 | SSE |
| AAQ9 | Banastarim | 4.7 | SW |
| AAQ10 | Jua | 3.7 | W |
| AAQ11 | Mayni | 0.5 | S |

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Annexure X of the EIA – Ambient Air Quality Results – shows that $PM_{10}$ levels at these locations *averaged* the following:

AAQ1 Proposed DI pipe plant site: 70.2 $\mu g/m^3$
(10.2 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ2 Existing hot metal plant: 69.6 $\mu g/m^3$
(9.6 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ3 Amona: 68 $\mu g/m^3$
(8 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ4 Sanquelim: 58.1 $\mu g/m^3$
AAQ5 Phanaswadi: 59.6 $\mu g/m^3$

AAQ6 Pissurlem: 63.8 $\mu g/m^3$
(3.8 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ7 Cotombi: 63.2 $\mu g/m^3$
(10.2 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ8 SavoiVerem: 61.1$\mu g/m^3$
(10.2 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ9 Banastarim: 58.4 $\mu g/m^3$

AAQ10 Jua: 63.5 $\mu g/m^3$
(3.5 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

AAQ11 Mayni: 67.5 $\mu g/m^3$
(7.5 $\mu g/m^3$ above the annual NAAQS for $PM_{10}$)

The authorities should conclude from this data that ambient air quality surrounding the Vedanta Limited Sesa Goa iron plant at Amona is impermissibly unhealthy and deny any proposed expansion of the facility until measures are implemented to abate emissions from the existing plants.

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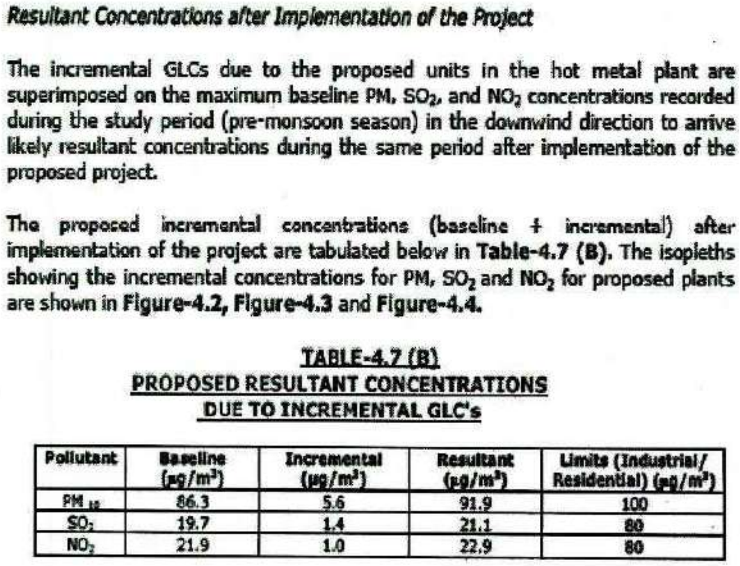
21. Second, in relation to enhanced load of pollution from expansion, the GF representation, based on facts provided in the EIA generated by the company's consultants, showed that the air quality impact assessment failed to provide information about how emissions would impact *annual and 24-hour levels of* $PM_{2.5}$ and *annual average levels of* $PM_{10}$.

Page C-14 of the EIA provides the following air quality impact assessment of the proposed expansion:



*Resultant Concentrations after Implementation of the Project*

The incremental GLCs due to the proposed units in the hot metal plant are superimposed on the maximum baseline PM, $SO_2$, and $NO_2$ concentrations recorded during the study period (pre-monsoon season) in the downwind direction to arrive likely resultant concentrations during the same period after implementation of the proposed project.

The proposed incremental concentrations (baseline + incremental) after implementation of the project are tabulated below in **Table-4.7 (B)**. The isopleths showing the incremental concentrations for PM, $SO_2$ and $NO_2$ for proposed plants are shown in **Figure-4.2, Figure-4.3** and **Figure-4.4.**

**TABLE-4.7 (B)**
**PROPOSED RESULTANT CONCENTRATIONS**
**DUE TO INCREMENTAL GLC's**

| Pollutant | Baseline (µg/m³) | Incremental (µg/m³) | Resultant (µg/m³) | Limits (Industrial/ Residential) (µg/m³) |
|---|---|---|---|---|
| $PM_{10}$ | 86.3 | 5.6 | 91.9 | 100 |
| $SO_2$ | 19.7 | 1.4 | 21.1 | 80 |
| $NO_2$ | 21.9 | 1.0 | 22.9 | 80 |

The Hon'ble Tribunal may note how Vedanta Limited only compares resultant pollutant levels to the 24-hour National Ambient Air Quality Standard for PM10, while providing no information about resultant PM10 levels on an annual average, and no information about PM2.5 levels at all. These omissions deprive stakeholders and environmental authorities of sufficient information to determine whether the proposed expansion is environmentally acceptable. Note also how the predicted resultant level of PM10 of 91.9 µg/m3 is well in excess of the 24-hour ambient air quality standard for PM10 in the United Kingdom which is set at 50 µg/m3.

22. Third, in relation to air pollution control norms followed by Vedanta in the UK and in India, the GF representation, based on facts provided in the EIA noted the following:

Levels of $PM_{10}$ and $PM_{2.5}$ surrounding the Vedanta Limited iron plant are far in excess of the European standards it follows in the UK. Vedanta Limited needs to explain how it is acceptable that the

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facility it operates in India grossly violates air quality standards of the country in which it is headquartered."

23. Fourth, in relation to graphite pollution, the GF representation submitted: "The most serious complaint against the existing plants at site is of air pollution, including graphite particles. This the company has not been able to resolve till this date. Until such time as air pollution is brought under control, expansion proposals may be rejected outright."

24. Fifth, the proposed pollution controls and emission limits are not consistent with international best practice.

In 2013, the European Commission identified air pollutant emission levels associated with use of Best Available Technology for iron and steel production.[1] For sinter plants at iron production plants, the following BAT-associated emission levels were identified.

> **20. BAT for primary emissions from sinter plants is to reduce dust emissions from the sinter strand waste gas by means of a bag filter.**
>
> **BAT for primary emissions for existing plants is to reduce dust emissions from the sinter strand waste gas by using advanced electrostatic precipitators when bag filters are not applicable.**
>
> **The BAT-associated emission level for dust is <1 – 15 mg/Nm$^3$ for the bag filter and <20 – 40 mg/Nm$^3$ for the advanced electrostatic precipitator (which should be designed and operated to achieve these values), both determined as a daily mean value.**

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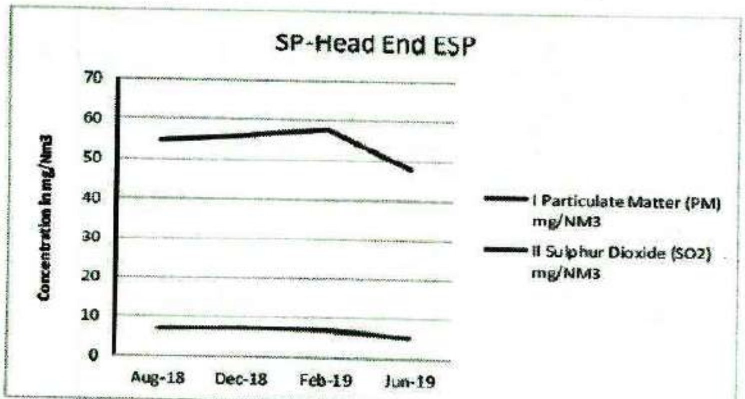
Page C4-12 of the EIA shows the following PM emissions from the sinter plant at Vedanta Limited Sesa Goa's iron plant at Amona.



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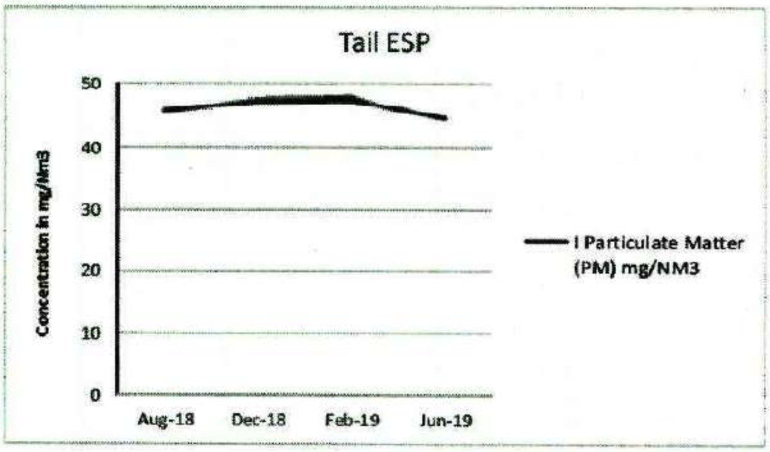
[1] European Union (2013) Best Available Techniques (BAT) Reference Document for for Iron and Steel Production.http://publications.jrc.ec.europa.eu/repository/bitstream/JRC69967/lfna25521enn.pdf



These emissions of PM are well above the Best Available Technology Air Emission Limit of <20-40 mg/Nm$^3$ that apply to sinter plants with ESPs in the European Union.

For hot blast furnaces at iron production plants, the following BAT-associated emission levels were identified.

65. **BAT for hot blast stoves is to reduce emissions by using desulphurised and dedusted surplus coke oven gas, dedusted blast furnace gas, dedusted basic oxygen furnace gas and natural gas, individually or in combination.**

The **BAT-associated emission levels**, determined as daily mean values related to an oxygen content of 3 %, are:

- sulphur oxides ($SO_x$) expressed as sulphur dioxide ($SO_2$) <200 mg/Nm$^3$
- dust<10 mg/Nm$^3$
- nitrogen oxides ($NO_x$), expressed as nitrogen dioxide ($NO_2$) <100 mg/Nm$^3$.

Page C4-12 of the EIA shows the following PM emissions from the sinter plant at Vedanta Limited Sesa Goa's iron plant at Amona.

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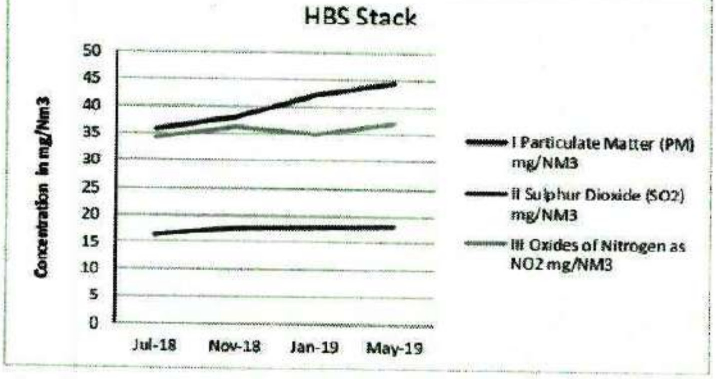
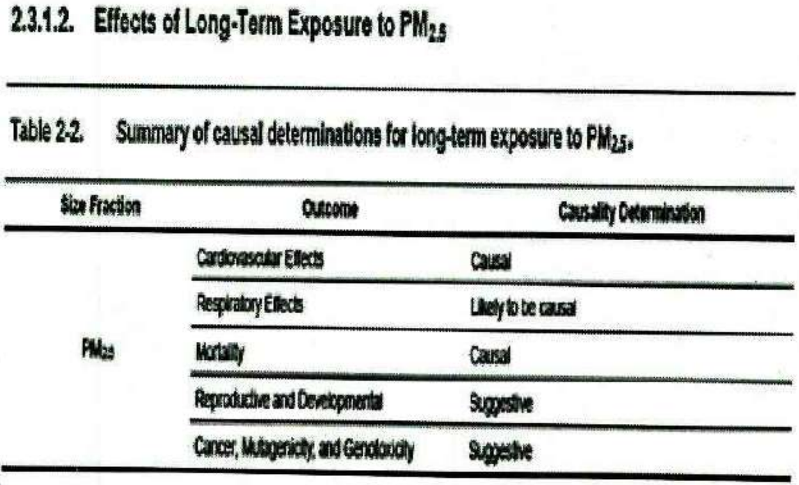


Hot Blast Stoves (HBS)

These emissions of PM are well above the Best Available Technology Air Emission Limit of <10 mg/Nm$^3$ that apply to sinter plants with ESPs in the European Union.

25. Sixth, the EIA fails to provide a quantitative health impact assessment associated with expected increased emissions of pollutants.

There is robust evidence that exposure to elevated levels of $PM_{2.5}$ in ambient air ***causes premature mortality and cardiovascular effects (predominantly ischemic heart disease and congestive heart failure)***. According to the U.S. EPA's most recent Integrated Science Assessment for Particulate Matter, the following relationships exist for long-term exposure to $PM_{2.5}$:[2]



**2.3.1.2. Effects of Long-Term Exposure to $PM_{2.5}$**

Table 2-2. Summary of causal determinations for long-term exposure to $PM_{2.5}$.

| Size Fraction | Outcome | Causality Determination |
|---|---|---|
| $PM_{2.5}$ | Cardiovascular Effects | Causal |
| | Respiratory Effects | Likely to be causal |
| | Mortality | Causal |
| | Reproductive and Developmental | Suggestive |
| | Cancer, Mutagenicity, and Genotoxicity | Suggestive |

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Moreover, the U.S. EPA has also found that these causal relationships hold at levels of $PM_{2.5}$ that are *below* the National Ambient Air Quality Standard for $PM_{2.5}$ of 12 μg/m$^3$ on an annual basis – without evidence of any threshold.[3]

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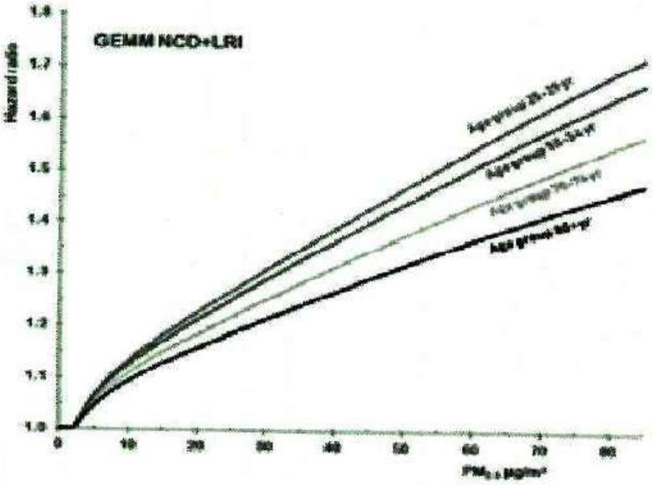
[2] US Environmental Protection Agency (2009) "Integrated science assessment for particulate matter." At Table 2-2

[3] The above document states: "An important consideration in characterizing the PM-morbidity and mortality association is whether the concentration-response relationship is linear across the full concentration range that is encountered or if there are concentration ranges where there are departures from linearity (i.e., nonlinearity). .... Using a variety of statistical methods, the concentration-response curve was found to be indistinguishable from linear, and, therefore, little evidence was observed to suggest that a threshold exists in the association between long-term exposure to $PM_{2.5}$ and the risk of death (Section 7.6)."

Since the U.S. EPA's most recent Integrated Science Assessment for Particulate Matter, studies in the peer-reviewed scientific literature have helped define the strength of the linear, dose-response relationship between long-term exposure to $PM_{2.5}$ and mortality. In 2018, more than 50 epidemiologists from around the world published in the Proceedings of the National Academy of Sciences updated estimates of the global burden of exposure to $PM_{2.5}$.[4] Examining non-accidental mortality data from 41 cohorts from 16 countries, these epidemiologists found that starting with $PM_{2.5}$ levels above 2.4 $\mu g/m^3$, the incidence of mortality from all nonaccidental deaths – which include deaths from non-communicable diseases (NCD) and lower respiratory infections (LRI) – while varying slightly for different age groups, rose in a linear fashion by approximately 10% for each 10 $\mu g/m^3$ increase in long-term $PM_{2.5}$ in the range of 2.4 - 80 $\mu g/m^3$. See figure below:



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Studies in the peer-reviewed scientific literature also find robust associations between elevated levels $PM_{2.5}$ and other important health endpoints, including neurological disease and cognitive impairment and diabetes.

In 2016, researchers principally with the Harvard University School of Public Health published a study finding that hospital admissions among the Medicare population from cities in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont and from Washington, D.C. for Parkinson's Disease, Alzheimer's Disease and dementia, rose in a statistically robust fashion by 8%, 15% and 8%, respectively per each 1 $\mu g/m^3$increase in long-term $PM_{2.5}$ regardless of whether air quality in a location met or exceeded the U.S. EPA long-term National Ambient Air Quality Standard of 12 $\mu g/m^3$.[5] In 2018, researchers principally with the Clinical Epidemiology Center, Research and Education Service, VA Saint Louis Health Care System, Saint Louis, Missouri, published a study finding that in a longitudinal cohort of more than 1.7 million U.S. veterans with no previous history of diabetes, the incidence of diabetes rose by 15% per each 10 $\mu g/m^3$ increase in long-term $PM_{2.5}$ regardless of whether air quality in a location met or exceeded the U.S. EPA long-term National Ambient Air Quality Standard of 12 $\mu g/m^3$.[6]

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[4] Burnett, R., Chen, H., Szyszkowicz, M., Fann, N., Hubbell, B., Pope, C. A., ... & Coggins, J. (2018). Global estimates of mortality associated with long-term exposure to outdoor fine particulate matter. Proceedings of the National Academy of Sciences, 115(38), 9592-9597.

Figure 4.2 on Page C4-12 of the EIA predicts increases in maximum daily levels of $PM_{10}$ *of greater than 0.62 μg/m³ extending several kilometers south and southeast* of Vedanta Limited Sesa Goa's iron plant at Amona. However, presenting the predicted numerical increases in particulate matter is the first-step in a two-step process of understanding how these changes in air quality would impact human health. The second necessary step – not taken by the EIA – is to apply the dose-response relationships between PM levels and health outcomes – mortality, cognitive impairment, diabetes – to the population living where these predicted numerical increases in particulate matter would occur. Without taking this second step, there is inadequate understanding of how many deaths and new

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[5] Kioumourtzoglou, M. A., Schwartz, J. D., Weisskopf, M. G., Melly, S. J., Wang, Y., Dominici, F., &Zanobetti, A. (2016). Long-term PM2. 5 exposure and neurological hospital admissions in the northeastern United States. Environmental health perspectives, 124(1), 23-29.

[6] Bowe, B., Xie, Y., Li, T., Yan, Y., Xian, H., & Al-Aly, Z. (2018). The 2016 global and national burden of diabetes mellitus attributable to PM 2· 5 air pollution. The Lancet Planetary Health, 2(7), e301-e312.

cases of Parkinson's Disease, Alzheimer's Disease, dementia and diabetes would result. For this reason, the EIA fails in its objective.

26. Seventh, the EIA fails to assess non-carbon based alternatives for iron production.

    In order to avoid a societal collapse associated with excessive global warming, climate experts are now advising that responding to the climate emergency requires net zero emissions of greenhouse gasses by 2030 (not 2050).

    Iron and steel production is a major contributor of greenhouse gasses, accounting for approximately 5% of total annual global greenhouse gas emissions. Vedanta Limited Sesa Goa's continued reliance on coal-derived coke for its iron production contributes to the risk of societal collapse associated with excessive global warming.

    However, means of decarbonizing the steel sector are being commercialized according to these studies in the peer-reviewed scientific literature, demonstrating that hydrogen generated by electrolysis from renewable-electrical energy generation (green hydrogen) can be used to replace coal in the reduction of iron. Appellants crave leave to rely upon the detailed contents of the representation dated 20.03.2021 as if this were part and parcel of this appeal memo.

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27. Despite the largely negative PHs and serious objections by institutions like the Goa Foundation, Vedanta submitted what it called an amended EIA of more than 600 pages, which purported to respond to all allegations related to the functioning of the plant.

28. Even while all this was going on, the GSPCB decided to conduct an environmental audit (EA) of the plant's operations. This was carried out with the lead assistance of expert Shri J.S. Kamyotra, who is

also a member of the EAC. The conclusions and decisions of the EA provide strong corroboration of the claims of the present appellants and the villagers they represent. In its recommendations, the EA observes:

> **Summary and Conclusions of Environment Audit of M/s. Vedanta Limited**
>
> Site Visit of Expert Committee to M/s. Vedanta Limited was concluded on 30/08/2021 and 31/08/2021
>
> Based on site observation, discussions with site management and review of documents the following inferences are drawn.
>
> · There are 4 different Consents to Operate prescribing similar conditions for M/s. Vedanta Limited Amona site. It is necessary that M/s. Vedanta Limited obtain One Single Amalgamated Consent to Operate for the entire site which will facilitate GSPCB to properly monitor Environmental Compliances by the site.
>
> - All the 4 Consents to Operate are Valid for the Consented period and there is No Non-Compliance.
> - It was observed from Form V Environmental Statement for the years 2018-19, 2019-2020 and 2020-2021 for all 4 Plants that the manufacturing quantities prescribed under Condition 2 of the Consent to Operate were within the Consented quantity and there is No Non Compliance.
> - M/s. Vedanta Limited complies with Condition 3 of Consent to Operate for Pig Iron Plant, Sinter Plant and Met Coke Plant by recycling the wastewater back into process and the Cooling Tower Blowdown from WHR Plant-2 is discharged to Mandovi River. The details of discharge into Mandovi River as prescribed under Condition 3(v) could not be verified.

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- M/s. Vedanta Limited should submit details of Cooling Tower Blow down into Mandovi River as prescribed under Condition 3 (v) of the Consent to Operate.

- The On-line Continuous Effluent Monitoring System provided on Cooling Tower Blow down discharge Pipeline is operational but the values are displayed only when the blow down discharge pump is in operation.

- P1D1 wastewater treatment by addition of polyelectrolyte and settling of solids was observed to be lacking in consideration to Thickener process as well as without any measurements. The site can improve the quality of treated effluent of recycle as well as obtain additional solids for recycle if the Thickener process is scientifically operated. This will also lead to 100% recycle of treated water.

- Prescribed Conditions under Condition 4 of Consent to Operate were observed to be followed w.r.t. Control Equipment and Stack. Stack Monitoring, Noise and Ambient Air Monitoring is carried out through MoEFCC recognised Agency however, it was observed that some Air Pollution Control Devices require upgradation.

- The CAAQMS as well as CEMS were observed to be showing erratic results, may be due to incomplete commissioning at the time of site visit, therefore M/s. Vedanta Limited must ensure correct calibration of CAAQMS and CEMS measuring instruments and provide connectivity to GSPCB as well as CPCB at the earliest.

- The display of values in ppm and mg/Nm3 for SO2 and NOx for Coke Oven Boiler Stack CEMS require correction since correct Conversion Factor has not been applied for.

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- Since CAAQMS at BF3 area is surrounded by some vegetation there is a need to regularly clear and trim this vegetation growth for proper collection of data.

- Performance Evaluation Report of Air Pollution Control Devices carried out by M/s. Gadark Laboratory describes manufacturing process but does not describe the Sampling Methodology, Sampling Locations, Sampling Ports, Sampling Equipment, Analytical procedures, Calculations and therefore this report appears to have been prepared for the sake of compliance. M/s. Vedanta Limited must carry out systematic and scientific measurements to establish factual performance of Air Pollution Control Devices.

August 2021

- With reference to Condition (x) of Met Coke Consent to Operate, M/s. Vedanta Limited have established 6 Ambient Air Quality Monitoring Stations on the premises.

- From the review of Form 4 Hazardous Waste Annual Returns for the year 2019-2020 and 2020-2021 it is observed that the quantity of Hazardous Waste Generated and disposed w.r.t Category 5.1, 5.2 and 33.3 was within the Authorised quantity however Category 345.2 has not been reported in Form 4 for Met Coke and WHR Plant-2. It was informed that the GSPCB system does not accept NIL value of waste.

- Since the Hazardous Waste quantities report are much less than the applied and authorised quantities, GSPCB should seek an explanation from M/s. Vedanta Limited for these low quantities and issue an amended with lower quantities as reported in Form 4.

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- With reference to Condition 5 (xii) for Pig Iron Plant, Sinter Plant and Met Coke Plant as well as Condition Six for Waste Heat Recovery Plant 2, there is a Display Board put up at the Pig Iron Plant Gate but during the visit it was observed that the details of display were not visible since display board work was in progress. The site has to ensure operation of the Display Board at the earliest.

**With reference to Additional Conditions in Amended Environmental Clearance**

- Although it is claimed that Storm Water drains are provided for channelizing the storm water into the settling ponds but these are not constructed storm water drains and are only dug up channels. The settling ponds are also dug up ponds without any civil construction. At BF1 and BF2 area there are storm water drains but are not quite visible. All storm water drains and Settling Ponds may be properly constructed or provided with internal water proof plaster.

- Although Bag Filters are provided to control the secondary emissions with the hoods at the emission sources, there are still fugitive emissions which are visible at work places. There is a need to evaluate the situation correctly and provide additional hoods to avoid escape of fugitive emissions from work places.

- Performance evaluation of Air Pollution Control Devices had been carried out by MoEFCC accredited Lab and report submitted to GSPCE and CPCB. It was found that the report describes the manufacturing processes and does not describe Sampling methodology sampling locations, Sample analysis procedures hence this report is not acceptable and the site must carry out scientific measurement of APCB efficiency again.

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- Monitoring of NO2 levels at 6 Locations and CO at multiple locations is done weekly and reports are submitted to GSPCB hence is not a Non-Compliance. However it was noted that the Wind Direction, Wind Speed and Relative Humidity during the sampling dates of the month was unchanged and hence the reports need to be properly checked every time.

- 33% of dedicated green belt are has been marked within the premises and every year plantation is taken up in the monsoon season to increase the density. Site has planted local species of trees within the project boundary areas adjoining villages as per CPCB guideline. This year 7500 saplings of native species were planted under Miyawaki technique at site.

The relevant extract of the EA report is enclosed at **Annexure 11**.

29. The Board thereafter met and decided to convert these recommendations into a set of directions issued to the Resp.No.3 under Section 33(A) of the Water Act, 1974 and section 31(A) of the Air Act, 1981. A copy of the order dated 14/01/2022 is enclosed at **Annexure 12**. Specific directions include:

   a) Upgrade air pollution control devices of pig iron manufacturing and Metcoke divisions which are inefficient.

   b) Upgrade material of construction of filter bags to PTFE Teflon Dust Collection Bags in Bag Filters.

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30. Despite the conclusions of the EA report and the Board's order dated 14.01.2022 – and to the utter dismay of the appellants – the EAC considered the project again on the basis of the modified EIA – and this time recommended it for EC at its 50th meeting held on 29.12.21. The relevant extract of the EAC minutes is enclosed at **Annexure 13**. The minutes merely copy what is said in the modified

EIA without any question. Shri J.S. Kamyotra was also present at the meeting that discussed and approved the EC for expanded operations. Thus the EAC could not have claimed ignorance of the actual situation obtaining at the plant which prevails till date.

31. The impugned EC was issued thereafter by MOEF&CC, without any application of mind, or worse, using only the mind of the Respondent company. None of the objections raised by the appellants during the PHs and in communications to the GSPCB were addressed. On this ground alone, the EC is liable to be set aside. Public hearings cannot be treated in this fashion.

32. The appellants submit that prior to arrival of the plant in this area they had pure air and pure water but due to the manner in which the company is able to manipulate the Goa State Pollution Control Board and its various authorities, the air being consumed by the village communities, the water pollution and the general unhealthy air generated by inappropriate mountain slag, the contamination of the river, the operation of beneficiation plant without environment clearance, all these have generated unacceptable degeneration of the environment of the neighborhoods of not just these two villages of Amona and Navelim but others including Surla, etc., and beyond.

33. The appellants have no faith in the authorities and their policy to control the air pollution since till date the Goa State Pollution Control Board does not have air pollution control experts. Almost all the staff are amateur and for these reasons continuously the Goa State Pollution Control Board has to import committees and expect the reports of the expert committees to deal with specific problems because it does not have the capacity to deal with these problems itself. The latest report is a glaring example where a member of the expert appraisal committee itself had to come to write the report on behalf of the Goa Board and it is quite apparent that without the presence of the expert member this report could not have been written.

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## GROUNDS

34. The Appellant is therefore approaching this Hon'ble Tribunal to quash and set aside the EAC's recommendation and the EC order dated 24.1.2022 on the following grounds, among others:

    a) The Environment Clearance has simply bypassed the issue raised by several objectors during the public hearing which attempted to question how an environment clearance was being considered for an expansion of a plant when there was evidence both in the form of reports and data that the existing plant was already in breach of its commitment to meeting existing norms of air pollution control and was unable to bring a halt to the release of graphite particles from the plant operation. In its recent order dealing with the problem of graphite emission from Graphite India from Bengaluru, this Hon'ble Tribunal has had to take a stand of upholding an order of the Karnataka Pollution Control Board which had directed closure of the plant due to graphite pollution. This Hon'ble Tribunal passed a detailed order in this matter.

    b) The contention of the appellants is supported by the report of the environmental audit which clearly found the air pollution control equipment deficient to comply with environmental standards and which recommended changeover of the bag house filters to nylon filters to improve the efficiency. Those recommendations were made in respect of the plant at Amona and the plant at Navelim before expansion and therefore it is moot to consider whether this change over has to be effected now or whether the plant has to be closed down entirely to ensure installation of improved pollution control equipment.

    c) As stated earlier, from the records produced before the EIA Committee, the EAC Committee has not examined the respondent company's present activity which is already in breach of law by exceeding the standards laid down by the law.

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d) The Ministry could not have granted the environment clearance for expanded production when the very conditions provided in the impugned environment clearance indicate further relaxations provided for implementation of the conditions laid down in the earlier environment clearances. This is clearly a favour being done to the Resp.No.3 at the expense of the village communities. Obviously this is the first time that the ministry is granting a fresh environment clearance when the conditions on record indicate that the conditions of the earlier environment clearance have not been met and the company has been unable to meet them as of the date of grant of the impugned environment clearance. This is completely unacceptable and the Hon'ble NGT must pass necessary directions in such matters.

e) The entire purpose of the granting of environment clearance appears to go through the procedures mechanically without examining:

   1) Whether the plant was meeting its existing norms (Clearly this is not the case);
   2) Whether the plant would be violating air pollution control standards even more seriously if it expanded production, as per its own EIA documents.
   3) Whether the plant is able to eliminate its graphite pollution or close operations.
   4) Whether the impacts on human health of excess pollution have been assessed.

f) Conditions of the earlier EC are not complied, but allowed to be further deferred. This is not permissible under law. A fresh EC cannot be granted if the existing EC conditions continue to be violated.

g) The Respondent industry has not been able to decrease or eliminate graphite pollution from the plant. Villagers have suffered this

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pollution now for nearly two decades. The EAC was duty bound to impose a condition for graphite free functioning.

h) The EAC ought not to have approved a phase out technology based on coke burning when there are alternatives including decarbonisation of the plant. The respondent company is committed to carbon, instead of decarbonising technology, and therefore cannot be IE compliant. It cannot be encouraged to plan a production which chooses larger contributions to greenhouse gasses and climate change.

i) Latest proof of the contention of appellants is the Environmental Audit report of the Goa SPCB which was conducted in August 2021. The Report was submitted to the Board in December 2021. The Report made an evaluation of installed technologies for dealing with air pollution, in view of inefficiency of existing technology. The EAC was bound to take into account the report of the Environmental Audit conducted by the Board, especially since the report of the Board was led by Shri J.S. Kamyotra, who also attended the meeting of the EAC being its member. The EAC could therefore not claim ignorance of the report of one of its members as a member of the GSPCB team.

j) Pursuant to this, even while the MOEF&CC was considering grant of EC for expanded production, the GSPCB on 21 December, 2021 had already decided to issue directions for curing the existing problems found by the EA committee. Thus the contentions of appellants – that the actions of the authorities between themselves will ultimately be the demise of the local community by a wholly confusing approach to the problem of pollution from the existing plant – are valid and ought to be seriously considered by the Tribunal in appeal. Either the Board is right in issuing the directions based on the EA report, or the MOEF&CC is right in granting expansion EC. However both cannot be right at the same time.

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k) The respondent industry has double standards, one for the UK and one for India, which cannot be accepted, as far as the norms for PM2.5 and PM10 are concerned. This approach this Hon'ble Tribunal must reject.

l) Finally, the EAC was required to take into account the fact that the Resp.No.6 was a squatter on the premises, and therefore the proposal for EC for expansion could not be entertained. All that the EAC has now done is to make the EC conditional on the suit pending before the District Court in Mapusa, Goa, for recovery of the land by the owners, the Comunidade of Amona.

## LIMITATION:

35. The Appeal ought to be filed within one month of the petitioners receiving a copy of the EC. However, appellants take recourse to the order of the Supreme Court dated 10.01.2022 extending the period of limitations under various statutes till May 31, 2022. Copy of the Supreme Court's order is enclosed at **Annexure 14**. This appeal is filed before May 31, 2022. Hence the appeal is filed on time and may be registered accordingly.

## PRAYERS

36. The Appellant is therefore approaching this Hon'ble Tribunal for the following reliefs:

   a) For an order quashing and setting aside the environment clearance dated 24/01/2022;

   b) For an order permanently injuncting the company from the release of graphite particles into the atmosphere and to ensure the wholesomeness of air;

   c) Or, in the alternative, replace coke with decarbonising technology;

d) Or, in the alternative, for an order to shut down the unit and install the pollution control machinery as laid out in the EA report.

**Interim reliefs:**

e) For an order restraining the company from acting on basis of EC dated 24/01/2022;

f) For an order restraining the GSPCB from granting a consent to establish in respect of the proposals approved via EC dated 24/01/2022. If such consent has been granted, that it be stayed.

g) For costs;

h) For such and further orders as this Hon'ble Tribunal may deem fit to grant.

**24.05.2022**

**Mapusa, Goa**

**Appellant No. 1**

**Appellant No. 2**

**Appellant No. 3**

**Appellant No. 4**

**Appellant No. 5**

S. Parshekar
Bardez - Goa
No. 218/10
Expiry Date
29/01/2025

**Through:**
Adv Anamika Gode,
G 8 St Brittos Apts,
Mapusa, Goa – 403507
anamikagode@gmail.com,
9674390308

# BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, WESTERN ZONE BENCH AT PUNE

**APPEAL NO OF 2022 [WZ]**

**BETWEEN:**

PRAVIR PRABHAKAR FADTE AND ORS.

**...APPELLANT**

**AND**

THE MINISTRY OF ENVIRONMENT,
FORESTS & CLIMATE CHANGE AND ORS.

**...RESPONDENTS**

## AFFIDAVIT

I, Pravir Prabhakar Fadte, Indian national, age 46 years, son of Prabhakar Fadte, H.No. 180/2, Betalwada, Amona, P.O. Marcela, Goa – 403107, do hereby solemnly affirm and state as under:

1. That I have read and understood the accompanying Appeal which has been drafted on my instructions.

2. I verify that the contents of paras 1, 2, 3, 4(p), 5(p), 6, 7, 8(p), 9, 10(p), 11(p), 12(p), 13, 14, 15, 16, 17, 18, 19(p), 20(p), 21(p), 22, 23, 24, 25, 26, 27, 28, 29, 30(p), 31(p), 32(p), 33(p), 34(p), 35, of the accompanying Appeal are in the nature of facts which are true to my own knowledge and belief, and that the contents of paras 4(p), 5(p), 8(p), 10(p), 11(p), 12(p), 19(p), 20(p), 21(p), 30(p), 31(p), 32(p), 33(p), 34(p), and 36 are my submissions, based on legal advice,

which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

3. That the Annexures enclosed are true and correct copies of their respective originals, and have been attested by me as such.

Solemnly affirmed at Mapusa, Goa
This the 24th day of May 2022

**DEPONENT**

SOLEMNLY AFFIRMED AND VERIFIED
BEFORE ME BY Pooja Prabhakar Fadte
WHO IS IDENTIFIED BEFORE ME BY
Adhaar Card No. 6083 2870 9254
WHOM I PERSONALLY KNOW
REG. No. 1634/22 DATED 24/05/022

JANARDHAN S. PARSHEKAR
NOTARY AT MAPUSA, BARDEZ - GOA
STATE OF GOA, INDIA.

Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025

## VERIFICATION

I hereby verify that the contents of paras 1 - 3 of my above affidavit are true to my knowledge and belief, and that no part of it is false and nothing material has been concealed therefrom.

Verified on the 24th day of
May, 2022, at Mapusa, Goa

**APPELLANT/DEPONENT**

SOLEMNLY AFFIRMED AND VERIFIED
BEFORE ME BY Pooja Prabhakar Fadte
WHO IS IDENTIFIED BEFORE ME BY
Adhar C. 6083 2870 9254
WHOM I PERSONALLY KNOW
REG. No. 1634/22 DATED 24/05/022

JANARDHAN S. PARSHEKAR
NOTARY AT MAPUSA, BARDEZ - GOA
STATE OF GOA, INDIA.

# BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, WESTERN ZONE BENCH AT PUNE

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PRAVIR PRABHAKAR FADTE AND ORS.

**...APPELLANT**

**AND**

THE MINISTRY OF ENVIRONMENT,
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**...RESPONDENTS**

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**PLACE** – Mapusa, Goa

**DATE** – 24.05.2022

Advocate for the Appellant

# ANNEXURE 1

ENVIRONMENTAL CLEARANCE

**PARIVESH**

(Pro-Active and Responsive Facilitation by Interactive, and Virtuous Environment Single-Window Hub)

## Government of India
## Ministry of Environment, Forest and Climate Change
## (Impact Assessment Division)

To,

The Director
VEDANTA LIMITED VALUE ADDITION BUSINESS
Village Navelim,
Taluka Bicholim,
District North Goa
Goa
PIN 403505,,North Goa,Goa-403505

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/GA/IND/236713/2018 dated 08 Dec 2021. The particulars of the environmental clearance granted to the project are as below.

| | | |
|---|---|---|
| 1. | **EC Identification No.** | **EC22A008GA145461** |
| 2. | **File No.** | IA-J-11011/946/2007-IA.II(I) |
| 3. | **Project Type** | Expansion |
| 4. | **Category** | A |
| 5. | **Project/Activity including Schedule No.** | 3(a) Metallurgical industries (ferrous & non ferrous) |
| 6. | **Name of Project** | Up-Gradation of Blast Furnaces (BF) to Enhance the Production Capacity of BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA, BF-3 from 5,40,000 TPA to 6,50,000 TPA, Setting up of Additional Oxygen Plant, Ins |
| 7. | **Name of Company/Organization** | VEDANTA LIMITED VALUE ADDITION BUSINESS |
| 8. | **Location of Project** | Goa |
| 9. | **TOR Date** | 06 Mar 2019 |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

**Date: 24/01/2022**

**(e-signed)**
**Sundar Ramanathan**
**Scientist E**
**IA - (Industrial Projects - 1 sector)**

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*

True Copy

This refers to your proposal no. **IA/GA/IND/236713/2018 dated 08/12/2021** submitted through Parivesh Portal for grant of **Environment Clearance (EC) under EIA Notification, 2006** for the project mentioned above.

2. As per the provisions of the Environment Impact Assessment (EIA) Notification, 2006, the above-mentioned project/activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous), 1(d) Thermal Power Plants and 4(b) Coke Oven Plants under Category "A" of the schedule of the EIA notification, 2006 and appraised at Central level.

3. Accordingly, the above-mentioned proposal has been considered by the **Re-constituted EAC (Industry-I)** in its **50th meeting held on 29th December, 2021**. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed at https://parivesh.nic.in/.

4. The details of the proposal are as per the EIA report submitted by the proponent. The salient features of the expansion proposal as presented during the above-mentioned meetings of EAC (Industry 1) are as under: -

<table>
<tr><th>S.No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>a.</td><td>Terms of Reference for undertaking EIA study</td><td>06/03/2019</td></tr>
<tr><td>b.</td><td>Period of baseline data collection</td><td>01/03/2019 to 31/05/2019<br>10/12/2020 to 10/03/2021 (additional study)</td></tr>
<tr><td>c.</td><td>Date of Public Consultation</td><td>14/03/2021 (Navelim Village) & 21/03/2021 (Amona Village)</td></tr>
<tr><td>d.</td><td>Action plan to address the PH issues</td><td>In addition to EMP budget, an amount of Rs. 880 Lakhs have been earmarked to address the issues raised during public consultation.</td></tr>
<tr><td>e.</td><td>Location of the project</td><td>Villages Amona and Navelim, Bicholim Taluka, North Goa District, Goa</td></tr>
<tr><td>f.</td><td>Latitude and Longitude of the project site</td><td><table>
<tr><th></th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>15$^{0}$31'44.35"N</td><td>73$^{0}$58' 58.76"E</td></tr>
<tr><td>B</td><td>15$^{0}$31'21.14"N</td><td>73$^{0}$59' 7.70"E</td></tr>
<tr><td>C</td><td>15$^{0}$30'25.08"N</td><td>74$^{0}$ 0' 26.74"E</td></tr>
<tr><td>D</td><td>15$^{0}$31'5.72" N</td><td>74$^{0}$ 0'27.21"E</td></tr>
<tr><td>E</td><td>15$^{0}$31' 37.16"N</td><td>73$^{0}$59' 55.24" E</td></tr>
</table></td></tr>
<tr><td>g.</td><td>Total land</td><td>161 ha<br>[Private:161 ha]</td></tr>
<tr><td>h.</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>The existing units are installed in 161 ha. of land which is owned by M/s. Vedanta Limited. The expansion project is proposed in existing project area of 161 ha. No additional land is required for the proposed expansion</td></tr>
<tr><td>i.</td><td>Existence of habitation & involvement of R&R, if any</td><td>No R&R is involved</td></tr>
<tr><td>j.</td><td>Elevation of the project site</td><td>10-55 m AMSL</td></tr>
<tr><td>k.</td><td>Involvement of Forest land if any.</td><td>No Forest Land is involved</td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>l.</td><td>Water body exists within the project site as well as study area</td><td><b>Project Site</b>: No water bodies within the project site.<br><br><b>Study area</b>
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Mandovi river</td><td>Adjacent to project boundary</td><td>SSW</td></tr>
<tr><td>Kudne river</td><td>1.0</td><td>North</td></tr>
<tr><td>Valvot river</td><td>3.5</td><td>North</td></tr>
<tr><td>KumbharjuaNadi</td><td>4.2</td><td>WSW</td></tr>
<tr><td>Karmali lake</td><td>6.0</td><td>SW</td></tr>
<tr><td>Arabian sea</td><td>15.0</td><td>WSW</td></tr>
</table>
<br>Wetlands
<ul>
<li>Wet land nearby Amona (0.3 km, N)</li>
<li>Wet land nearby Navelim (0.6 km, N)</li>
<li>Wet land nearby Candola (1.45 km, W)</li>
<li>Wet land nearby Candola (1.6 km, W)</li>
<li>Wetland nearby Karapur (2.4 km, N)</li>
<li>Wetland nearby Karapur (3.8 km, N)</li>
<li>Wet land near Carambolim (7.0 km, SW)</li>
<li>Chorao Island (12.4 km, W)</li>
</ul>
<i>[HFL data of Mandovi River is 7.66 m above mean sea level. The elevations in the project site range from 15.0 to 50.0 m AMSL. Hence, any inundation or flooding due to peak flow events in Mandovi river is not envisaged.]</i></td></tr>
<tr><td>m.</td><td>Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve / tiger reserve / elephant reserve etc. if any within the study area</td><td>Ecologically Sensitive Zone (ESZ) for all the Wildlife Sanctuaries (WLS) in Goa are notified and maximum distance is of1 km from the boundary of WLS. Project site is reported to be located outside the notified ESZ boundary.<br><br>The WLS in study area are listed below:
<ul>
<li>Mhadei WLS (9.8 km, NE)</li>
<li>Bondla WLS (10.5 km, SE)</li>
<li>Dr. Salim Ali Bird Sanctuary (12.4 km, W)</li>
</ul>
Following Reserve forests are located within study area:<br>Reserve forest: (5.9 km, ESE)<br>Reserve forest: (6.6 km, E)<br>Reserve forest: (9.5 km, NE)<br><br><i>[ESZ Notification was issued on 25/02/2015. Ecologically Sensitive Zone (ESZ) for all the Wildlife Sanctuaries (WLS) in Goa are notified and maximum distance is of 1 km from the boundary of WLS. Office of the Dy. Conservator of Forests has authenticated the</i></td></tr>
</table>

<table>
<tr><th>S.No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td></td><td></td><td><i>distance of Wild Life Sanctuaries from boundary of Vedanta Plant vide letter dated 04/06/2021.Project site is reported to be located outside the notified ESZ boundary.]</i></td></tr>
<tr><td>n.</td><td>Archaeological sites/ historical monuments within the study area.</td><td>
<table>
<tr><th>Site name</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Namuzgah/ Idgah Mosque</td><td>7.1 km</td><td>NW</td></tr>
<tr><td>Fort at Sanquelim</td><td>4.4 km</td><td>N</td></tr>
<tr><td>Temple of Saptakoteshwar</td><td>5.9 km</td><td>WNW</td></tr>
<tr><td>Site of Gujir</td><td>2.2 km</td><td>N</td></tr>
<tr><td>Site of Fortress at St. Estevam</td><td>3.2 km</td><td>WNW</td></tr>
<tr><td>Fort at Naroa</td><td>6.0 km</td><td>W</td></tr>
<tr><td>Church of St. Peter</td><td>7.9 km</td><td>W</td></tr>
<tr><td>Chapel of our Lady of the Monte</td><td>6.9 km</td><td>W</td></tr>
<tr><td>Old Goa Church</td><td>8.0 km</td><td>W</td></tr>
<tr><td>Chapel of St. Xavier</td><td>7.5 km</td><td>W</td></tr>
<tr><td>Ruins of Collage of St. Populo</td><td>8.8 km</td><td>W</td></tr>
<tr><td>Convent of St. Monika & Chapel</td><td>8.6 km</td><td>W</td></tr>
<tr><td>Pandavas Caves at Naroa</td><td>5.8 km</td><td>WNW</td></tr>
<tr><td>The Mosque & Tank at Tar Surla</td><td>1.5 km</td><td>SE</td></tr>
<tr><td>Caves at Mangueshi</td><td>8.2 km</td><td>SW</td></tr>
<tr><td>Site of Ruins of Manguesh temple</td><td>8.3 km</td><td>SW</td></tr>
<tr><td>Ruins of Brahmapuri</td><td>7.0 km</td><td>W</td></tr>
<tr><td>Caves of Siddhanath at tar surla</td><td>1.9 km</td><td>SE</td></tr>
<tr><td>Haravalem Caves</td><td>3.8 km</td><td>NNE</td></tr>
</table>
<i>[NOC from Archaeological Survey of India is under process.]</i></td></tr>
<tr><td>o.</td><td>Project cost</td><td>INR 701 Crores</td></tr>
<tr><td>p.</td><td>EMP cost</td><td>Capital Cost: INR 90.68 Crores<br>Recurring Cost: INR 4.0 Crores</td></tr>
<tr><td>q.</td><td>Employment opportunity</td><td>450</td></tr>
<tr><td>r.</td><td>Water and Power requirement</td><td>Water – 12,744 KLD [Existing: 10,344 KLD, Proposed Expansion: 2,400 KLD]<br>Power – 55.5 MW [Existing: 27 MW, Proposed Expansion: 28.5 MW]</td></tr>
</table>

**Unit configuration and capacity:**

| S No | Name | Existing Units | | Proposed Units /Change | | Total (Existing +Proposed) | |
|---|---|---|---|---|---|---|---|
| | | Configuration | Production Capacity | Configuration | Production Capacity | Configuration | Production Capacity |
| 1 | Blast furnaces1 & 2 | 173 m³ x 2 Nos | 2,92,000 TPA | No Change | 58,000 TPA (Increase by process improvement) | 173 m³ x 2 Nos | 3,50,000 TPA |
| 2 | Blast furnace-3 | 450 m³ x 1 No | 5,40,000 TPA | No Change | 1,10,000 TPA (with technology up gradation & process improvement) | 450 m³ x 1 No | 6,50,000 TPA |
| 3 | Met coke production | Battery 1: 84 Ovens(non-recovery)<br>Battery 2: 72 Ovens (Non-recovery) | Battery 1: 3,22,000 TPA (prior to EC Notification so CTO capacity mentioned)<br>Battery 2: 3,00,000 TPA (Phase 1 of EC capacity 6,00,000 TPA) | Battery 1: Additional 4 Ovens (non-recovery type)<br>Battery 2: No Change | 0 (4 ovens will be added to achieve the existing production)<br>0 | Battery 1: 88 Ovens (non-recovery type)<br>Battery 2: 72 Ovens (Non-recovery type) | 6,22,000 TPA |
| 4 | Fe-Si plant | Nil | Nil | 7.5 MVA | 5,000 TPA | 7.5 MVA | 5,000 TPA |
| 5 | Proposed ductile iron pipe plant | Nil | Nil | Nil | 3,00,000 TPA | Nil | 3,00,000 TPA |
| 6 | Waste heat recovery power plant | 1 x 33 MW & 1 x 35 MW | 595 Million Units | Nil | Nil | 1 x 33 MW & 1 x 35 MW | 595 Million Units |
| 7 | Sinter plant | 1 x 75 m² | 10,00,000 TPA | Nil | Nil | 1X75 m² | 10,00,000 TPA |
| 8 | Oxygen & nitrogen plant | 1x100 TPD Oxygen & 1x50 TPD Nitrogen (Cryogenic plant) | 1x100 TPD Oxygen & 1x50 TPD Nitrogen | 1x150 TPD Oxygen | 1x150 TPD Oxygen | 1x150 TPD + 1x100 TPD Oxygen & 1x50 TPD Nitrogen | 250 TPD Oxygen & 50 TPD Nitrogen |

5. The Re-constituted EAC (Industry-I) in 50th meeting held on 29th December, 2021, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the instant expansion proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to stipulation of specific and general conditions as detailed in the paragraph given below.

6. The MoEF&CC has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the

recommendations of the Expert Appraisal Committee (Industry-1) hereby decided to grant Environment Clearance for instant expansion proposal of **M/s. Vedanta Limited** under the provisions of EIA Notification, 2006 in supersession of existing ECs subject to the following specific conditions and general conditions.

## A. Specific conditions

i. The project proponent shall abide by all orders and judicial pronouncements, made from time to time in case no. 47 of 2013 before the Hon'ble National Green Tribunal, Case No. 881/2017 in Hon'ble High Court of Goa; Case No. 24/2015 before the Hon'ble District Court, Mapusa.

ii. Green Belt shall be developed in 54 hectares of land (33.5 % of total land) with tree density of 2500 trees per ha by 31/12/2022 all along the periphery of the project site. This shall include, gap filling which shall be done in existing green belt developed area wherever tree density is less than 2500 trees per ha. This shall include green belt development within the site with a width of 25 meters towards the Amona village and Navelim village located a distance of 0.32 km and 0.05km from the project site respectively.

iii. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

iv. The project proponent shall comply with the following points by on (or) before 31/05/2022 as committed below by the proponent, failing which, GSPCB shall initiate legal action against the proponent under the relevant provision of the Environment (Protection) Act, 1986. Further, compliance status in this regard shall be submitted to the concerned Regional Office of the MoEF&CC along with the six-monthly compliance report.

   a. 6.38 km internal plant road shall be black topped or concreted by April 2022.
   b. All the stored slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in place by 31stMay, 2022.
   c. There are 18 sites of archaeological importance in the study area. Requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022.
   d. Wind Shield for control of graphite particle emissions shall be provided by March 2022.

v. Ductile Iron (DI) plant shall have the following provisions:

   a. Wet scrubbers for Volatile Organic Compounds in annealing furnace.
   b. Bag filter for Zn coating and Mg converter area.
   c. Wet scrubbers in paint and bitumen coating area.
   d. Bag Filter in Cement lining area.
   e. PTFE dipped bags shall be used in the plant.
   f. PM emissions from BF in Zinc coating area shall be 5 mg/Nm3.
   g. ETP with recycling facility shall be included. All scrubber effluent shall be treated in ETP.

vi. Parking area for trucks/dumpers shall be provided within the plant. No truck/dumper shall be parked outside the plant premises.

vii. Project proponent shall conserve wetlands located in the vicinity of the project site (Amona – 0.3km in Northern direction and Navelim – 0.6 km in Northern direction) by developing green belt development all along the boundary of the wet land.

viii. Solid waste utilization
- Maximum 90 days of slag storage area shall be permitted inside the plant.
- PP shall recycle/reuse 100 % solid waste generated in the plant.
- Used refractories shall be recycled as far as possible.

ix. Sinter Plant shall be equipped with sinter cooler waste recovery system to generate process steam or power.

x. BF shall be equipped with Top Recovery Turbine, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.

xi. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.

xii. Submerged Arc Furnace shall be of closed type with 4th hole extraction system.

xiii. Particulate matter emissions from stacks shall be less than 30 mg/Nm3. Necessary retrofitting work shall be carried out in Air Pollution Control Devices (APCDs) of old plant to reduce PM emissions to less than 30 mg/Nm3 within two years from the date of EC.

xiv. AAQ at Mosque and Siddhartha Caves archeological sites shall be monitored as per the CPCB norms. 02 manual ambient air quality monitoring stations within the plant shall be replaced with one CAAQMS in addition to the 03 CAAQMS presently installed. Manual monitoring as done presently shall be continued and Benzo Amino Pyrene (BaP) shall be monitored manually as per CPCB norms. Besides, one manual air quality monitoring station shall be established towards Amona and Navelim villages and ambient air quality monitored as per CPCB norms.

xv. Water requirement for the plant shall be met from Mandovi River and Valvonti river. Ground water abstraction is not permitted.

xvi. All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guidelines.

xvii. Water being used for cooling purposes in Waste Heat Recovery Power Plant (WHRPP) is the saline water drawn from Mandovi river (backwater). The blow down of cooling towers shall be discharged back to the saline backwaters as per the approval of the GSPCB. Project proponent shall periodically monitor the riverine water quality and report shall be submitted along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

xviii. Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process.

xix. Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation.

xx. The recommendations contained in the storm water management plan shall be strictly adhered with. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

## B. General conditions

### I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time.

It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

## II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).

x. Land-based APC system shall be installed to control coke pushing emissions.

xi. Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.

xii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.

xiii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

## III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. The project proponent shall provide the ETP for coke oven to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time;

iv. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

vi. Tyre washing facilities shall be provided at the entrance of the plant gates.

vii. Water meters shall be provided at the inlet to all unit processes in the steel plants.

## IV. Noise monitoring and prevention

i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

## V. Energy Conservation measures

i. Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.

ii. Restrict Gas flaring to < 1%.

iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

iv. Provide LED lights in their offices and residential areas.

v. Ensure installation of regenerative/recuperative type burners on all reheating furnaces.

## VI. Waste management

i. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.

ii. Kitchen waste shall be composted or converted to biogas for further use.

## VII. Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.

## VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.

iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

## IX. Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

## X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

7. This issues with the approval of the Competent Authority.

24/1/22

**(Sundar Ramanathan)**
**Scientist 'E'**

**Copy to:-**

1. Secretary, Department of Environment, Government of Goa, Secretariat Panaji.
2. Regional Officer, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore – 560034
3. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
4. Chairman, Goa State Pollution Control Board, Dempo Tower, EDC Plaza, 1st Floor, Panaji, Goa – 403 001.
5. Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-ll0001.
6. District Collector, North Goa District, Goa.
7. Guard File/Record File/Monitoring File.
8. MoEF&CC Website

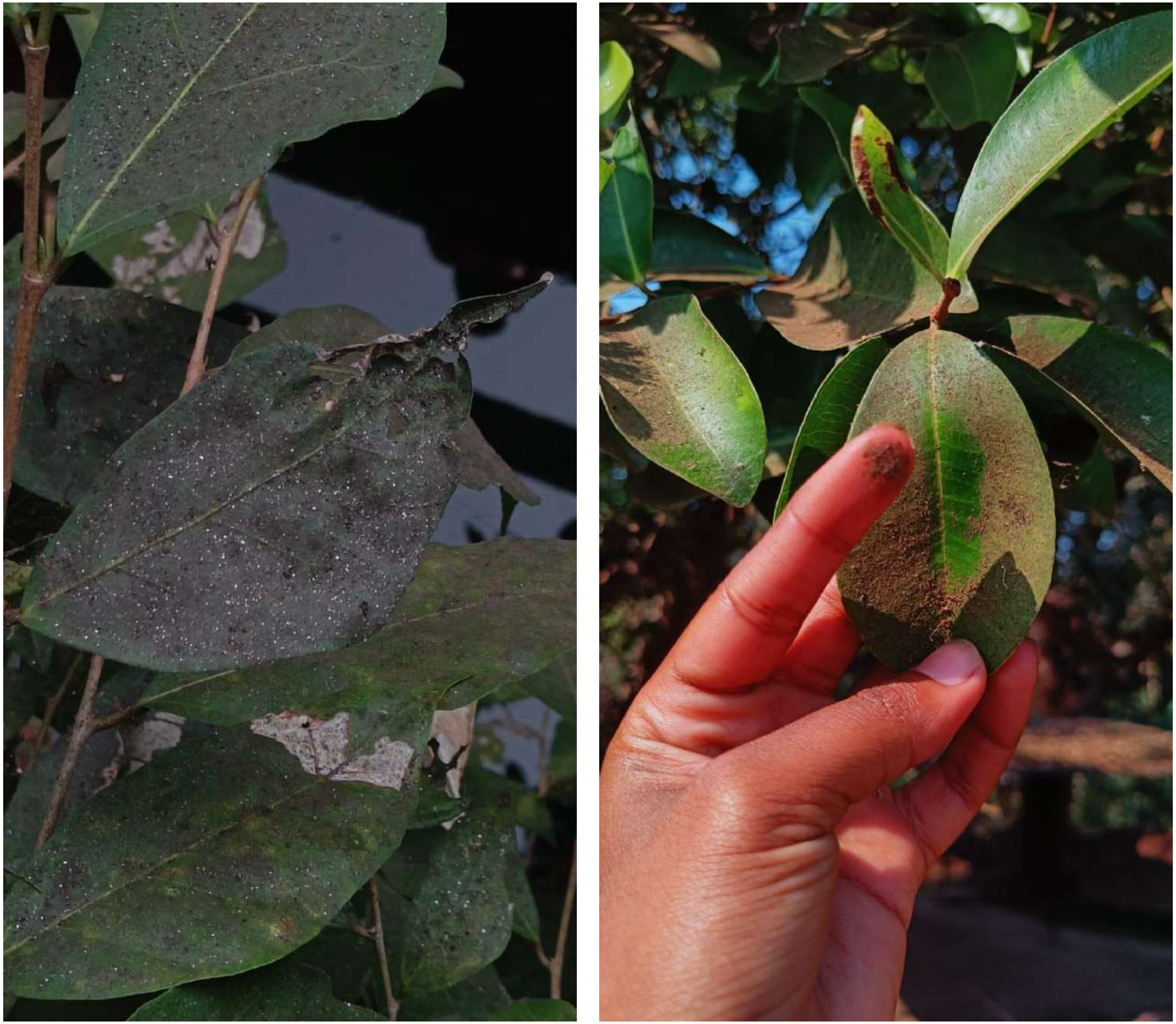
24/1/22

**(Sundar Ramanathan)**
**Scientist 'E'**

Signature Not Verified
Digitally signed by Sundar Ramanathan
Scientist E
Date: 1/24/2022 5:25:13 PM

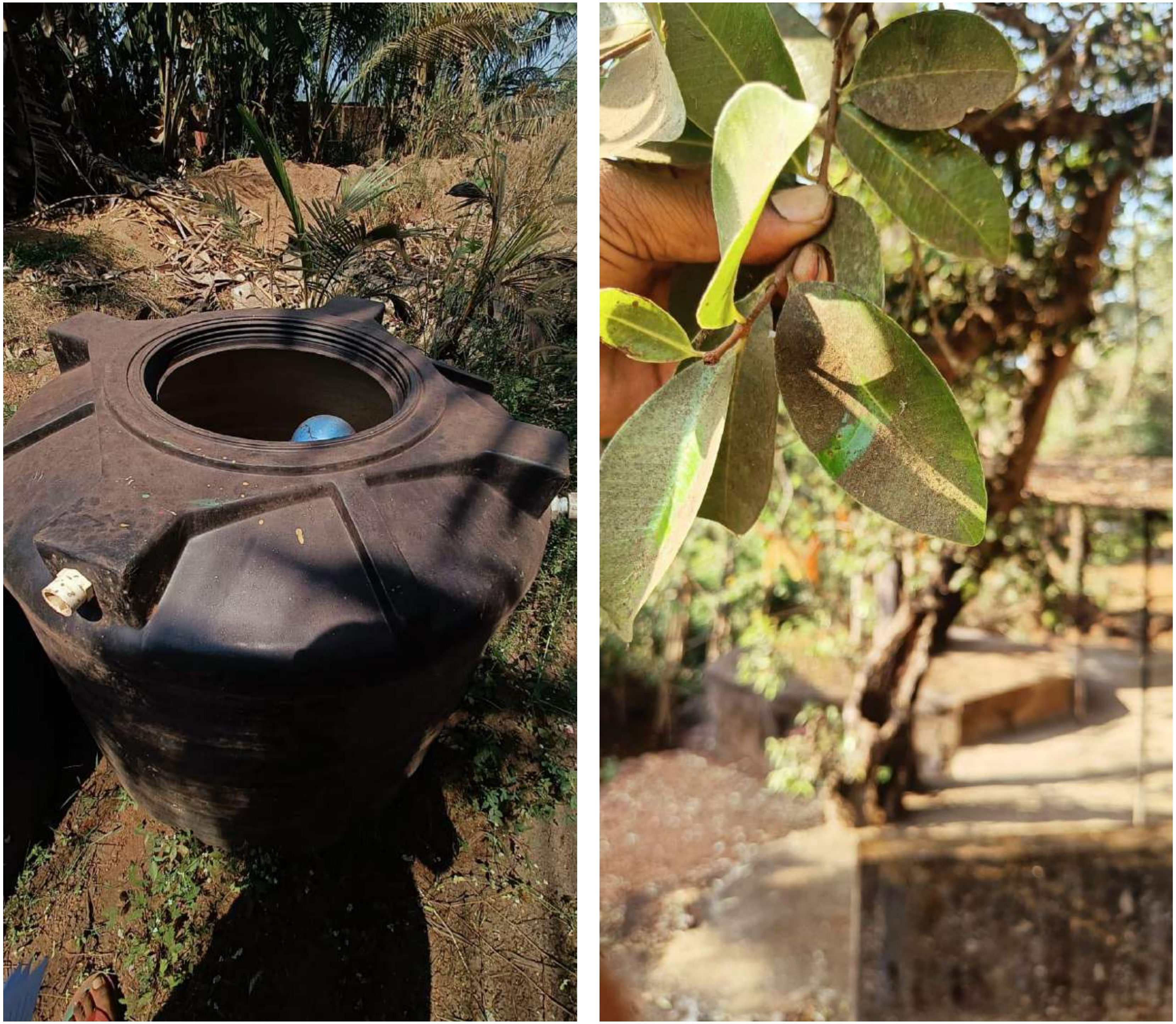
## ANNEXURE 2 COLLY

Photographs dt. 24.02.2022, showing Graphite Pollution in various places in the village of Amona. Graphite particles seen settled on leaves of plants.

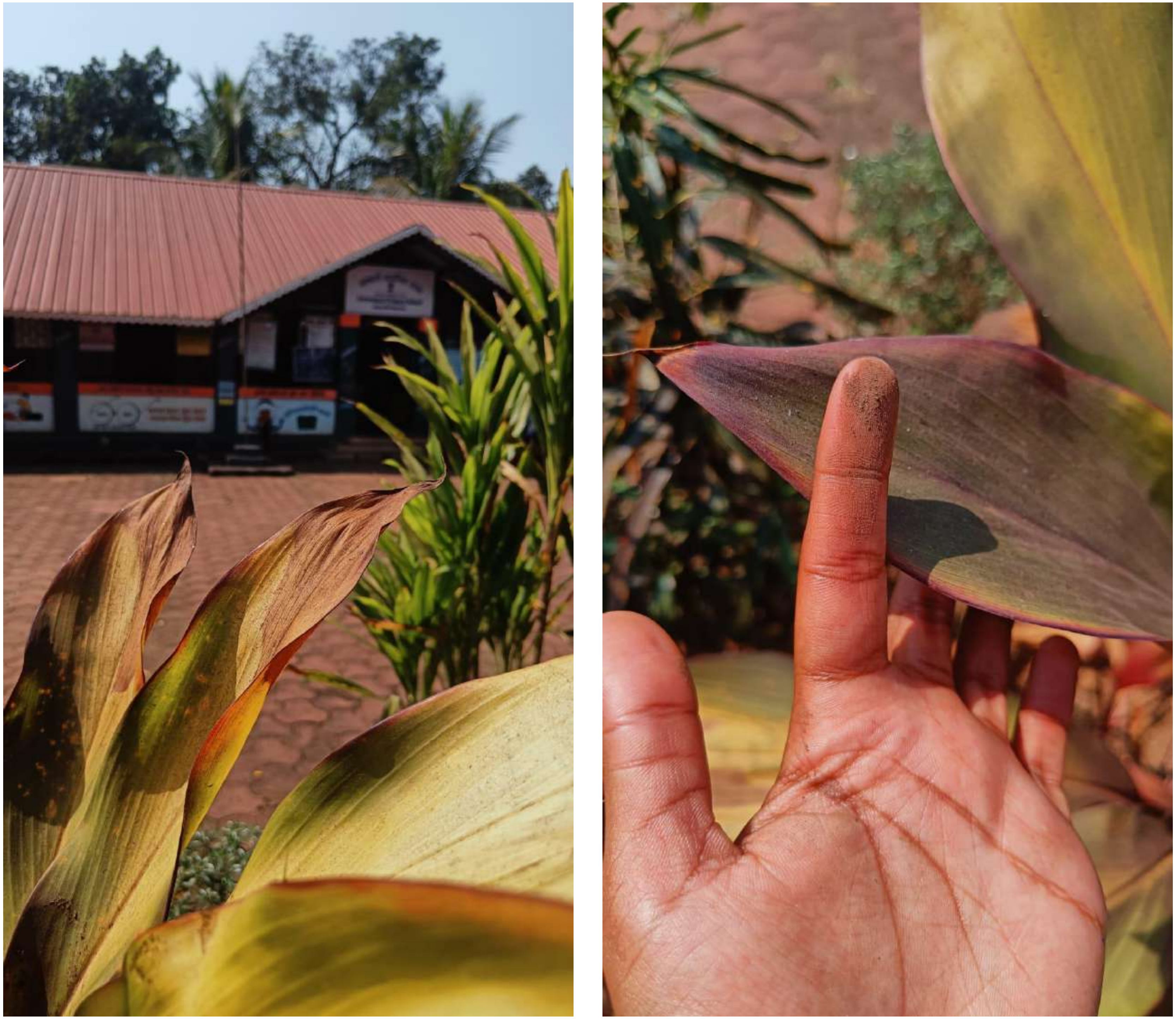


True copy

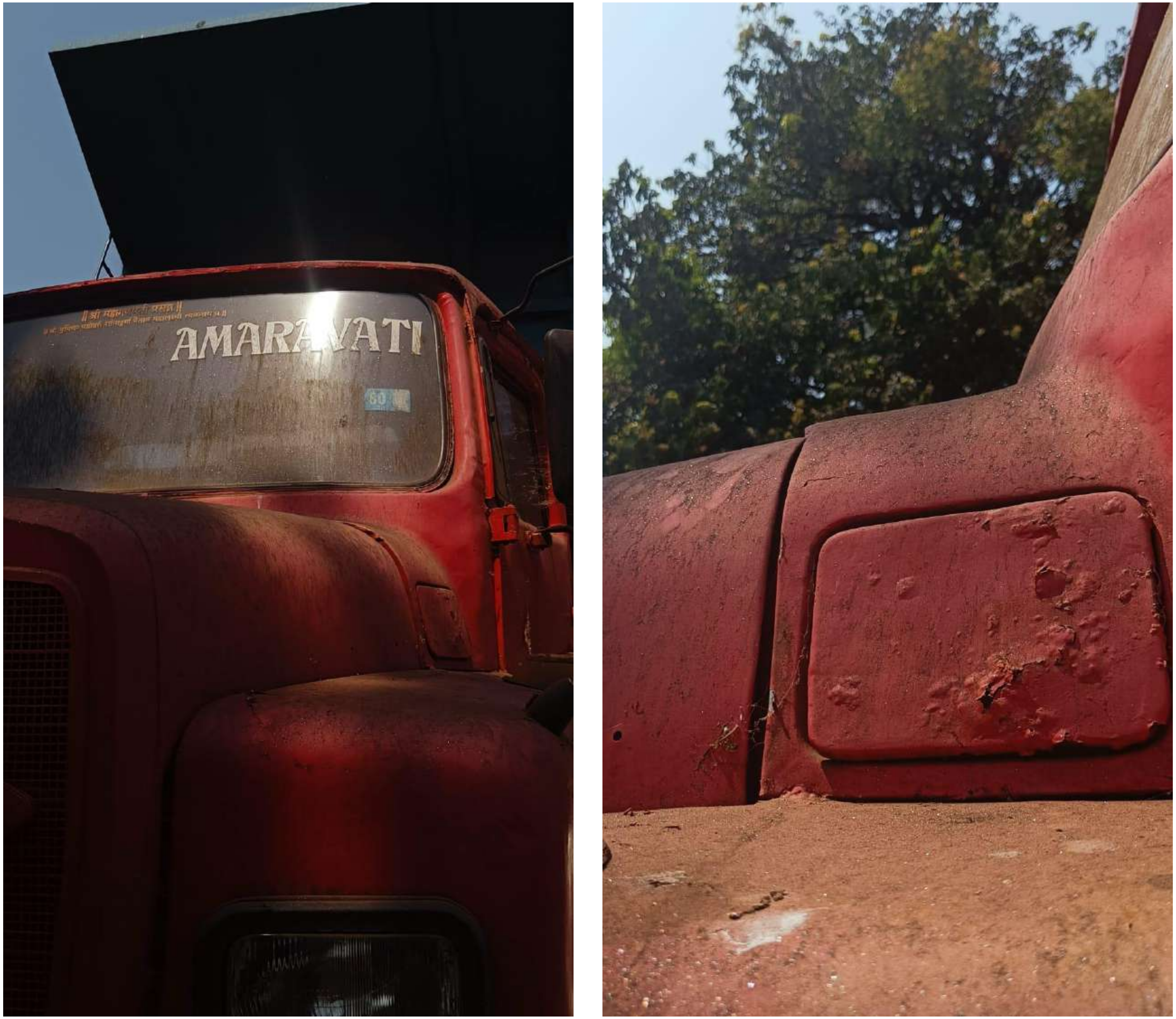
Photographs dt. 24.02.2022, showing graphite particles settled on a drinking water tank and leaves of plants in Amona.



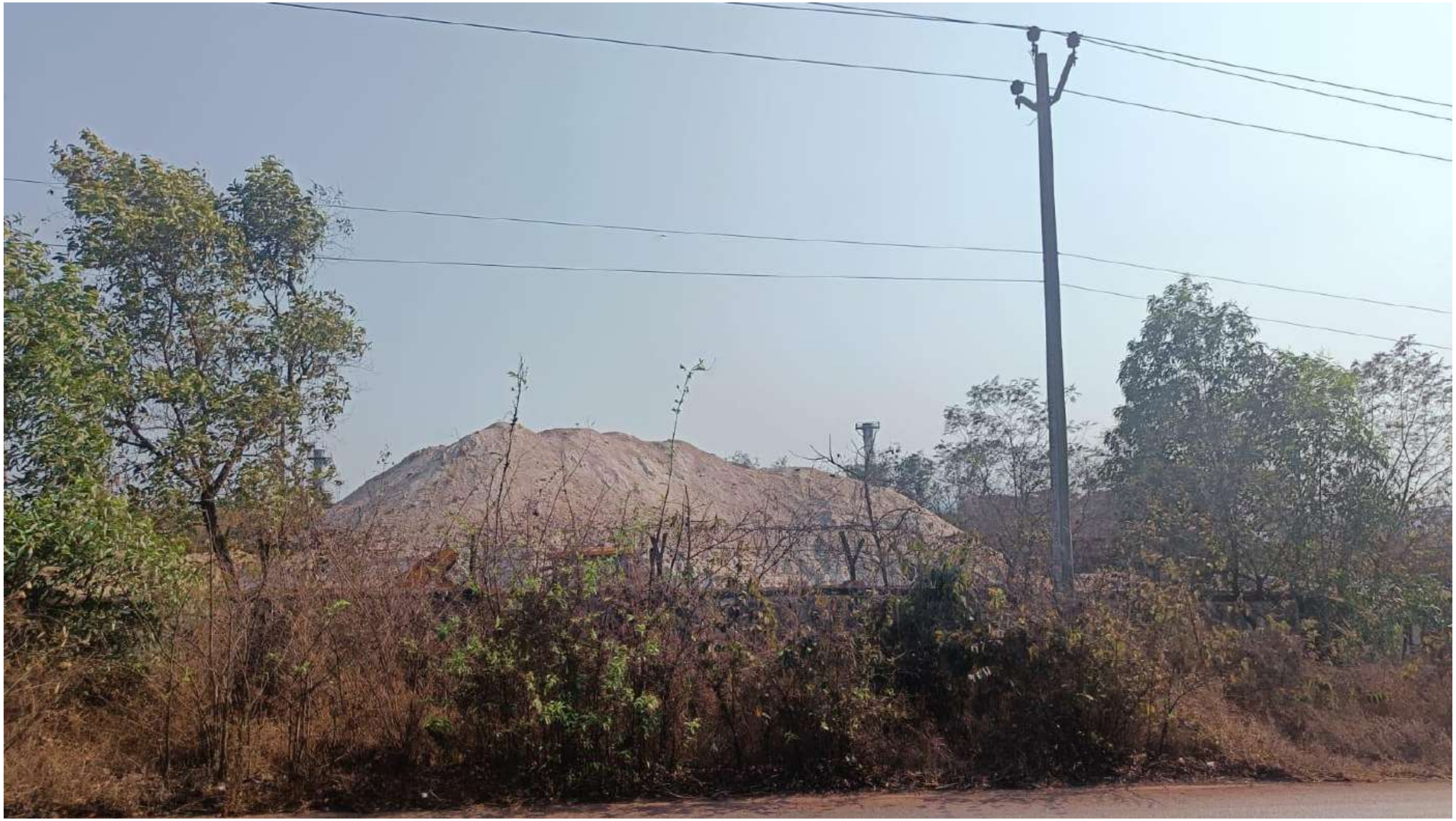
Photographs dt. 24.02.2022, showing graphite particles settled on leaves of plants in Amona.



Photographs dt. 24.02.2022, showing graphite particles settled on trucks in Amona.



Photograph dt. 24.02.2022, showing solid waste/slag accumulated within the plant



## ANNEXURE 3

**BEFORE THE NATIONAL GREEN TRIBUNAL,**
**PRINCIPAL BENCH, NEW DELHI**

**Original Application No. 111 of 2017($T_{HC}$)**
**(M.A. No. 1469/2017)**
**Civil Appeal No. 10659/2016**
**(PILWP No. 4/2011)**

**IN THE MATTER OF:**

**Ramchandra Vaman Vs. M/s. SESA Goa Ltd. & Ors.**

**CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON**
**HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER**
**HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER**
**HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER**

| | | |
|---|---|---|
| **Present:** | **Applicant :** | **Mr. Rahul Choudhary and Ms. Meera Gopal, Advs. for Applicant** |
| | **Respondent No. 1:** | **Mr. Ninad Laud and Mr. Ivo D'Costa, Advs.**<br>**Ms. Ranjana Roy Gawai, Ms. Vasudha Sen, Ms. Sreenita Gosh, Ms. Rishika Raha and Mr. Rohan Gupta, Advs.** |

| | **Date and Remarks** | **Orders of the Tribunal** |
|---|---|---|
| | **Upon mentioning**<br>**December 06, 2017** | The matter taken up on mentioning.<br>Learned Counsel appearing for the parties jointly prayed that the word ***expansion*** has been typed as expression at the first page second paragraph of the order dated 04th December, 2017.<br>Let the correction be made by the Registry immediately.<br>……………………………………,CP<br>(Swatanter Kumar)<br>……………………………………,JM<br>(Dr. Jawad Rahim)<br>……………………………………,JM<br>(Raghuvendra S. Rathore)<br>……………………………………,EM<br>(Bikram Singh Sajwan) |

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CORRECTED ORDER

**BEFORE THE NATIONAL GREEN TRIBUNAL,**
**PRINCIPAL BENCH, NEW DELHI**

**Original Application No. 111 of 2017(THC)**
**(M.A. No. 1469/2017)**
**Civil Appeal No. 10659/2016**
**(PILWP No. 4/2011)**

**IN THE MATTER OF:**

**Ramchandra Vaman Vs. M/s. SESA Goa Ltd. & Ors.**

**CORAM : HON'BLE MR. JUSTICE SWATANTER KUMAR, CHAIRPERSON**
**HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER**
**HON'BLE MR. JUSTICE RAGHUVENDRA S. RATHORE, JUDICIAL MEMBER**
**HON'BLE MR. BIKRAM SINGH SAJWAN, EXPERT MEMBER**

| | |
|---|---|
| **Present: Applicant :** | **Mr. Saurabh Kulkarni and Mr. Prashant Bhat, Advs. Mr. Khenlo s. applicant in person**<br>**Mr. Rahul Choudhary and Ms. Meera Gopal, Advs. for Applicant** |
| **Respondent No. 1:** | **Ms. Ranjana Roy Gawai, Ms. Vasudha Sen, Ms. Sreenita Ghosh, Ms. Rishika Rahia and Mr. Rohan, Gupta, Advs.**<br>**Mr. Venkatesh Dhond, Sr. Adv., Mr. Ninad Laud Mr. Abhijit Gosavi and Mr. AnjumanTripathy, Mr. Shankar Swaminathan and Mr. D'Çosta advs**<br>**Mr. Divya Prakesh Pande, Adv. for Ministry of Environment, Forest and Climate Change**<br>**Mr. Atmaram NS Nadkarni, Ld. ASG, Mr. Salvador Santosh Rebello, Mr. Jai A. Dehadrai, Mr. S.S. Rebello, Mr. Sidharth Arora, Advs. for State of Goa** |

| | **Date and Remarks** | **Orders of the Tribunal** |
|---|---|---|
| | **Item No. 29**<br><br>**December 04, 2017** | We have heard the Learned counsel appearing for the parties.<br><br>We dispose of the above application with the directions that Ministry of Environment, Forest & Climate Change to examine, if any, additional or further conditions that are required to be imposed on the Project Proponent for grant of Environmental Clearance, particularly keeping in view of the facts that the two units which clearly appear to be distinct units and hardly fall within the ambit and scope of the word ~~expression~~ expansion# used in 'EIA Notification 2006'. For this purpose the applicant is at liberty to submit his suggestions to Ministry of Environment, Forest & Climate Change within two weeks from today. If the suggestions are not filed within two weeks to Ministry of |

# Corrected vide order dt 6/12/17

True copy

**Item No. 29**

**December 04, 2017**

Environment, Forest & Climate Change then the Ministry of Environment, Forest & Climate Change to proceed in accordance with law and pass appropriate order as expeditiously as possible.

With the above direction Original Application No. 111 of 2017 stands disposed of. No order as to cost.

**M.A. No. 1469 of 2017**

This application does not survive for consideration as the main application itself has already been disposed of.

The M.A. No. 1469 of 2017 stands disposed of accordingly. No order as to cost.

……………………………………,CP
(Swatanter Kumar)

……………………………………,JM
(Dr. Jawad Rahim)

……………………………………,JM
(Raghuvendra S. Rathore)

……………………………………,EM
(Bikram Singh Sajwan)

**ANNEXURE 4**

**F. No. J-11011/946/2007-IA.II(I)**
**Government of India**
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira ParyavaranBhawan
Jor Bagh Road, Aliganj.
New Delhi - 110003
E-mail: dirind-moefcc@gov.in
Tel: 011-24695368
Dated: 07.01.2020

To

M/s Vedanta Limited.,
(Formerly Sesa Goa Ltd)
Sesa Ghor, 20, EDC Complex, Patto,
Panaji, Goa – 403 001.

Subject: Steel Plant of **M/s. Vedanta Limited** (Formerly M/s. Sesa Industries Limited) located at Village Amona Navelim Taluka Bicholim District North Goa, Goa – **Compliance to the NGT order dated 4th December 2017 in Original Application No. 111 of 2017 in the matter of Shri. Ramachandra Vaman Vs M/s Sesa Goa Ltd &Ors - Amendment in Environmental Clearance - regarding.**

Sir,

This has reference to the order of Hon'ble National Green Tribunal (NGT), New Delhi in the matter of Ramachandra Naik & Ors v/s Sesa Goa Ltd & Ors (Original Application THC 111/2017) vide order dated 04.12.2017.

2. In the year 2010, a writ petition was filed in the High Court of Bombay, at Goa against the expansion project which was subsequently converted into a PIL bearing No. WP No. 4 of 2011. The Hon'ble High Court of Bombay vide judgment dated 6.3.2012 dismissed the PIL. This order of the Hon'ble High Court came to be challenged by way of appeal before the Hon'ble Supreme Court of India in form of SLP No. 31647/2012. The Hon'ble Supreme Court vide its order dated 7.11.2016 had transferred the matter (the SLP) to NGT Principal Bench at Delhi for consideration as *denovo* and uninfluenced by the view taken by the High Court. The Principal Bench of NGT Delhi on 4th December 2017 disposed of the case with following directions.

*'Ministry of Environment, Forest and Climate Change to examine, if any, additional or further conditions that are required to be imposed on the Project Proponent for grant of Environmental Clearance, particularly keeping in view of the facts that the two units which clearly appear to be distinct units and hardly fall within the ambit and scope of the word expansion, used in EIA Notification 2006. For this purpose, the applicant is at liberty to submit his suggestions to Ministry of Environment, Forest and Climate Change within two weeks. If the suggestions are not filed within two weeks to Ministry of Environment, Forest and Climate Change*

True Copy

24/06/2020

(राजशेखर रत्ती)
(RAJASEKHAR RATTI)
वैज्ञानिक 'डी'/Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

*then the Ministry of Environment, Forest and Climate Change to proceed in accordance with law and pass appropriate order as expeditiously as possible'*

3. In response to Hon'ble NGT orders, the applicant submitted the representation vide letter dated 01.02.2018. The issues raised in the representation are related to air pollution due to pig iron plant, seepage of wastewater, permission from Village Panchayat etc.

4. Regional Office (RO), Bangalore and Goa State Pollution Control Board conducted a joint site inspection on 31.08.2018 in pursuance with the Ministry's request. RO, Bangalore of this Ministry submitted the site inspection report vide letter dated 07.09.2018 advising some additional points for consideration of the Ministry.

5. In the meanwhile, the Ministry prescribed ToRs vide letter dated 06.03.2019 for consolidated proposal regarding modernization and expansion of the project which involves all the units (Three blast furnaces, coke plant and other facilities) considering recommendation of the EAC (Industry-1) meeting held during 9th -11th January, 2019.

**Observations of the Committee**

6. The Ministry placed the matter in the EAC meeting held during 22nd -23rd August, 2019 and 24-25th September 2019. The Committee observed despite the fact that entire compound is divided into two parts by the internal industrial estate road, this physical separation had already been bridged through overhead conveyor, overhead gas pipeline, power distribution lines. For this connectivity, NOCs/permissions had been obtained by PP from the following competent authorities.

    i. The Notification declaring industrial area dated 22.02.2001.
    ii. The layout plan showing all the units of Value Added Business (Vedanta Ltd).
    iii. Chart showing the inter-dependence and inter-connection of all the industrial units of Value Added Business.
    iv. NOC for overhead crossing of BFG line and coke conveyor across public road dated 14.04.2011.
    v. Extension of validity of NOC dated 14.03.2011 vide letter dated 29.04.2014.
    vi. Latest ground rent deposit receipt of 2019 for using government property dated 25.04.2019.
    vii. Letter to Sesa Goa by GIDC dated 13.06.2019 enclosing letter from GIDC to Sarpanch of village Panchayat Navelim dated 17.04.2013 along with approved plan.
    viii. GIDC letter of approval of revised plan for expansion of coke plant dated 15.02.2012.
    ix. Approval from State electrical inspectorate for energizing 33KV cable from plant to substation of electricity department across the road dated 13.11.2014.

RSU 28/06/2020
(राजशेखर रत्ती)
(RAJASEKHAR RATTI)
वैज्ञानिक 'डी'/Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New D

x. Technical clearance from town planning department for overhead structural bridge for coke conveyor and BFG pipeline dated 23.01.2012.

xi. Order from District Magistrate for diversion of traffic during proposed construction of overhead crossing of bridge carrying BFG pipeline and coke conveyor along with drawing of the site dated 12.09.2014.

xii. NOC from Chief Electrical Engineer from evacuation of power dated 03.11.2014.

xiii. Invoices of pig iron sold with same GST number irrespective of being produced from any furnace no.1,2 or 3.

xiv. Acceptance letter of E-auction ore to Vedanta Ltd as sample for raw material sourcing. (F/14)

xv. Management Structure of Vedanta Ltd -Value Added Business.

7. It is also observed that the entire complex administratively functioning as single entity as is seen by the fact that both the parts have a common ownership, common administrative offices and functions, common places for raw material and marketing, common financial returns etc.

8. Therefore, though these two parts are spatially separated by internal industrial road but in terms of operations and management they are *de facto* one single entity.

9. The committee also examined the issues flagged in the joint inspection report of Regional Office, Bangalore and Goa Pollution Control Board. and also reviewed the conditions of Environmental Clearance dated 3rd June. 2009 as directed by NGT vide its order dated 4th December 2017 in the matter of 2017 in the matter of Shri. Ramachandra Vaman Vs M/s Sesa Goa Ltd &Ors.

**Recommendations of the Committee**

10. After deliberations, the committee recommended the following additional conditions to be added to the existing EC conditions.

    a. Additional filter beds, arrester walls shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation. The runoff water shall be diverted in to settling ponds to prevent any siltation of river / nallahs / fields.

    b. All the transportation roads within the project premises shall be fully asphalted/concreted in a phased manner to ensure the reduction of fugitive emissions and to get a clear runoff during monsoon.

    c. Regular monitoring of ground water quality shall be carried out in one open well each in three villages i.e.. Amona. Navelim and Maina villages in post and pre-monsoon seasons and the results shall be submitted to GSPCB under intimation to RO, MoEF&CC Bangalore.

    d. One additional Continuous Ambient Air Quality Monitoring Station (CAAQMS)in consultation with GSPCB shall be established within the project premise towards the adjoining villages, and monitoring reports shall be submitted to the Goa State Pollution Control Board (GPCB) and CPCB.

28|06|2020
(राजशेखर रत्ती)
(RAJASEKHAR RATTI)
वैज्ञानिक 'डी'/Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

e. Additional sprinkling arrangement in the raw material stacking area shall be done to control the fugitive dust within the project premise.

f. Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process.

g. The NOx and CO levels should be monitored at workplace at regular intervals (minimum once a week) and controlled.

h. Monthly monitoring of BaP, Pb, HC, VoCs shall be conducted and report shall be submitted to GSPCB and CPCB.

i. Performance evaluation of all air pollution control devices should be carried out through competent agencies as per the predetermined maintenance protocol of each equipment and report submitted to GSPCB and CPCB.

j. The tree density in the existing greenbelt should be increased by planting local species within the project boundary areas adjoining villages as CPCB guidelines.

k. All the above conditions shall also be incorporated in the six monthly report submitted to Regional Office, Bangalore, MoEF&CC.

11. The Ministry has considered above recommendation of EAC and decided to amend the Environmental Clearance issued vide letter F.No. J-11011/946/2007-IA.II(I) dated 03.06.2009 by additional conditions mentioned at para 10.

12. The stipulated Additional Conditions at para 11 shall be in addition to the specific conditions of the aforementioned Environmental Clearance and the Project Proponent shall implement these conditions in time bound manner and submit the compliance status to the Regional Office of the Ministry at Bangalore along with the regular half yearly compliance report.

13. This amendment to the Environmental Clearance shall be read with the Environmental Clearance vide letter F.No. J-11011/946/2007-IA.II(I) dated 0.3.06.2009, its subsequent amendments vide letter even no. dated 25.04.2012 and 05.09.2016, Environmental Clearance transfer vide letter even no. dated 25.04.2012 and 05.09.2016, Extension of Environmental Clearance vide letter even no. dated 07.07.2017.

14. All other Terms and Conditions of the earlier Environmental Clearance vide letter F.No. J-11011/946/2007-IA.II(I) dated 0.3.06.2009, its subsequent amendment vide letter even no. dated 25.04.2012 and Environmental Clearance transfer vide letter even no. dated 25.04.2012, shall remain the same.

15. The project proponent shall obtain fresh Environmental Clearance in case of any change in the scope of the project.

This issues with the approval of Competent Authority.

23/06/2020
(राजशेखर रत्ती)
(RAJASEKHAR RATTI)
वैज्ञानिक 'डी'/Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

**(A.K.Agrawal)**
**Director**

(20)

**Copy to:-**

1. The Secretary, Department of Environment, Government of Goa, Panaji,Goa
2. The Secretary, Department of Forests, Government of Goa, Panaji, Goa.
3. The Chief Wildlife Warden, Government of Goa, Panaji, Goa.
4. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SZ), KendriyaSadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore – 560034
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD- The Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairman, Goa State Pollution Control Board, Dempo Tower, EDC Plaza, 1st Floor, Panaji, Goa- 403 001
7. The Member Secretary, Central Ground Water Authority, 18/11, Jamnagar House, Man Singh Road, New Delhi-110001.
8. The District Collector, North Goa, Govt. of Goa.
9. Monitoring File/Guard File/ Record File.
10. MoEF&CC Website

**(A.K.Agrawal)**
**Director**

25/06/2020
(राजशेखर [illegible]
(RAJASEKHAR [illegible]
वैज्ञानिक 'डी'/Scientist [illegible]
पर्यावरण, वन एवं जलवायु परिवर्तन [illegible]
Min.of Environment,Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

**ANNEXURE 5**

*[Typed copy at pgs. 77 - 96]*

# GOA STATE POLLUTION CONTROL BOARD
# गोंय राज्य प्रदूषण नियंत्रण मंडळ

**(An ISO 9001-2015, ISO 14001:2015. OHSAS 18001:2007 Certified Board)**

Phone Nos. : 0832-2407700
2407701, 2407702
2407703
Tel/Fax No. : 0832-2407700

GOA

Email Ids:
Chairman, GSPCB: chairman-gspcb.goa@nic.in
Member Secretary GSPCB: ms-gspcb.goa@nic.in
Environment Engineer, GSPCB: ee-gspcb.goa.nic.in
Scientist, GSPCB: scientist-gspcb.goa@nic.in
Office: goapcb@gspcb.in

No. 1/25/20-PCB/FLM/3570/Legal/4902 **By Regd.A.D.** 09/07/2020

## SHOW CASUSE NOTICE

**WHEREAS,** the officials of Goa State Pollution Control Board (hereinafter referred to as the "Board", in short) had conducted an Interim Study of Ambient Air Quality Monitoring for the month of February & March, 2020 at 06 locations in and around M/s. Vedanta Limited -. Pig Iron Plant (PIP) Amona Plant boundary.

**WHEREAS,** the study Report and the monitoring data indicated that the Particulate Matter ($PM_{10}$ & $PM_{2.5}$) monitored was found to be exceeding beyond limits.

**(Copy of the Interim Study Report is attached)**

The Board was also in receipt of a complaint from Shri. Khemlo S. Sawant, resident of Betalwado, Amona Goa dt. 28/04/2020 regarding pollution caused by your unit. In response the Board officials conducted inspection on 20/05/2020 wherein it was observed that shiny particles was seen deposited on the leaves of plants and trees at various locations in the vicinity of your plant premises.

**(Copy of the inspection report and complaint is attached)**

**WHEREAS,** the Board at its 135th meeting held on 13/12/2018 has delegated its powers to issue, refuse, withdraw and vary consent under section 25, 26 and 27 of the Water Act and under section 21 of the Air Act to the undersigned.

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**NOW THEREFORE**, in light of the above and in exercise of the powers delegated to the undersigned, under section 25/26 of the Water (Prevention and Control of Pollution)

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Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981, the Management of **M/s. Vedanta Limited (Pig Iron Plant) located at Survey No. 30 (Part), 41, 42/1, 27 (Part), Village Amona, P.O. Marcela, Bicholim - Goa** is hereby directed to show cause within a period of 15 days from the date of receipt of this notice, as to why action should not be taken against your unit for violation of the Consent condition under the Air (Prevention and Control of Pollution) Act, 1981.

**TAKE NOTE**, that your failure to comply with the aforesaid notice will compel the Board to initiate legal action as per the provisions of the said Acts, without any further notice.

Issued on this 09th day of July, 2020.

(Dr. Shamila Monteiro)
Member Secretary
For Goa State Pollution Control Board

To,
**M/s. Vedanta Limited,**
**Sesa Ghor, 20 EDC Complex,**
**Patto, Panaji Goa.**

Copy to:

1) Shri. Khemlo S. Sawant, resident of Betalwado, Amona Goa
2) Office copy
3) Guard file
4) Legal file

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# Interim Report

Interim Report on AAQM at Amona, Betki and Navelim Feb & March 2020.

The Goa State Pollution Control Board has conducted Ambient Air Quality Monitoring at 06 locations in 04 geographic quadrants at distances of 250 mtrs , 500 mtrs and 1000 mtrs respectively, around Pig Iron Plant (PIP) Amona plant boundary accordingly the Board has conducted the AAQM for the Month of February & March 2020 at 06 Ambient Air Quality Monitoring locations in and around the M/s. Vedanta Ltd; Pig Iron Plant –Amona.

The following are the locations were the Board has conducted the AAQM during the month of February-March 2020.

| Sl.No. | Location | Lat. and Log. of the site |
|---|---|---|
| | **Western Quadrant** | |
| 1. | Shri. Mahalaxmi Ravalnath Temple, Amona (Western Quadrant W boundary limits of PIP Amona-350 mts Approx) | N15$^0$31'50.10"<br>E 73$^0$58'48.10" |
| 2. | Shri. Shantadurga Amriteshwar Temple, Amona (Western Quadrant W boundary limits of PIP Amona-520 mts Approx) | N15$^0$31'50.70"<br>E 73$^0$58'43.40" |
| 3 | Government Primary School, Kharwada, Amona (Western Quadrant W boundary limits of PIP Amona-1.01 Kmts Approx) | N15$^0$31'58.00"<br>E 73$^0$58'25.50" |

| Sl.No. | Location | Lat. and Log. of the site |
|---|---|---|
| | NORTH QUADRANT | |
| 4. | Government High School, Betalwada, Amona (Northen Quadrant N boundary limits of PIP Amona-500 mts Approx) | N15$^0$31'59.90"<br>E 73$^0$58'58.90" |
| | EAST QUADRANT | |
| 5. | Shree Betal Temple, Navelim, Bicholim (Eastern Quadrant E boundary limits of PIP Amona-980 mts Approx) | N15$^0$31'32.33"<br>E 74$^0$0'10.07" |
| | SOUTH QUADRANT | |
| 6. | Shree Rampurush Temple, Betki, Khandola (Southern Quadrant S boundary limits of PIP Amona-800 mts Approx) | N15$^0$30'58.03"<br>E 73$^0$58'59.46" |
| | | |

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Table 03 A2: L-1 W-QDT: 250 mtrs : within the premises of Shree Mahalaxmi Ravalnath Temple, Amona –February-March 2020

| Sampling Date | $SO_2$(4 Hourly Sampling) 24 hrly Average | $NO_X$(4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 01.03.2020 | BDL | BDL | 78 | 23 |
| 03.03.2020 | BDL | BDL | 83 | 14 |
| 05.03.2020 | BDL | BDL | 82 | 28 |
| 07.03.2020 | BDL | 14 | 84 | 28 |
| 09.03.2020 | BDL | BDL | 63 | 20 |
| 11.03.2020 | BDL | BDL | 80 | 12 |
| 13.032020 | BDL | 9 | 73 | 28 |
| 15.03.2020 | 4 | BDL | 100 | 10 |
| 17.03.2020 | BDL | BDL | 95 | 33 |
| 19.03.2020 | BDL | BDL | **121** | 37 |
| 21.03.2020 | BDL | BDL | 88 | 11 |
| **Maximum** | 4 | 14 | **121** | **37** |
| **Minimum** | **BDL** | **BDL** | **63** | **10** |
| %time exceedence | 0 | 0 | 9.09% | nil |
| NAAQS (2009) Limits | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 11 days for $SO_2$ , $NO_2$ PM $_{10}$ and PM $_{2.5}$. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 1 day (NIL on two consecutive monitoring days) and $PM_{2.5}$ has not exceeded on any occasions for total of 11 days monitoring. The field report indicated other anthropogenic in and around the areas such as sweeping, and movements of vehicles medium density (Light and Medium Vehicles). Shiny black particles were also seen settled on the instrument as well as the platforms on the said site.

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Table 03 B2: L-2W-QDT: 500 mtrs: within the premises of Shree Shantadurga Amriteshwar Temple, Amona –February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NO (4 Hourly Sampling) 24 hrly Average | $PM_{10}$ (8 Hourly Sampling) 24 hrly Average | $PM_{2.5}$ (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 24.02.2020 | BDL | 18 | 153 | 38 |
| 26.02.2020 | BDL | 14 | 82 | 36 |
| 28.02.2020 | BDL | BDL | 94 | 77 |
| 01.03.2020 | BDL | BDL | 81 | 38 |
| 03.03.2020 | BDL | BDL | 90 | 27 |
| 05.03.2020 | BDL | BDL | 61 | 15 |
| 07.03.2020 | BDL | 12 | 95 | 07 |
| 09.03.2020 | BDL | BDL | 78 | 37 |
| 11.03.2020 | BDL | BDL | 72 | 22 |
| 13.03.2020 | BDL | BDL | 96 | 42 |
| 15.03.2020 | BDL | 10 | 123 | 50 |
| 17.03.2020 | 5 | BDL | 98 | 20 |
| 19.03.2020 | BDL | BDL | 220 | 26 |
| 21.03.2020 | BDL | BDL | 97 | 32 |
| **Maximum** | 5 | 18 | 220 | 77 |
| **Minimum** | **BDL** | **BDL** | **61** | **07** |
| **%time exceedence** | 0 | 0 | 21.42% | 7.14% |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 14 days for$SO_2$, $NO_2$, PM $_{10}$ and PM $_{2.5}$. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 3 occasions (NIL on two consecutive monitoring days), and $PM_{2.5}$ has exceeded on 1 occasion ( NIL on two consecutive monitoring days) for total of 14 days monitored. The field report indicated local sweeping and other anthropogenic activities in and around the areas, and movements of vehicles medium density (Light and Medium Vehicles). Shiny black particles were still seen settled on the instrument as well as the platforms, on the said site

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Table 03 C2: L-3: W-QDT: 1000 mtrs : within the premises of Govt. Primary School Kharwada, Amona February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 01.03.2020 | BDL | BDL | 90 | 34 |
| 03.03.2020 | BDL | BDL | 64 | 48 |
| 05.03.2020 | BDL | 10 | 63 | 25 |
| 07.03.2020 | BDL | 12 | 53 | 18 |
| 09.03.2020 | BDL | BDL | 70 | 13 |
| 11.03.2020 | BDL | BDL | 51 | 19 |
| 13.032020 | BDL | BDL | 51 | 9 |
| 15.03.2020 | BDL | 11 | 94 | 23 |
| 17.03.2020 | 4 | 15 | 67 | 24 |
| 19.03.2020 | BDL | BDL | 93 | 18 |
| 21.03.2020 | BDL | BDL | 46 | 19 |
| **Maximum** | **4** | **15** | **94** | **48** |
| **Minimum** | **BDL** | **BDL** | **46** | **9** |
| **% excedence** | 0 | 0 | NIL | NIL |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

REMARKS: The monitoring was conducted for a total of 11 days for $PM_{10}$ and $PM_{2.5}$, $SO_2$ and $NO_2$. It is observed that all the parameters ie. $PM_{10}$, $PM_{2.5}$, $SO_2$ and $NO_2$ values are within limit on all 11 days of monitoring. The field report indicated sweeping work in and around the areas, Biomass Burning (leaves, foliage, twigs etc), and movements of vehicles low density (Light and Medium Vehicles).

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Table 03 D2: L-4: N-QDT: 500 mtrs: within the premises of Govt. High School Betalwada, Amona, February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 03.03.2020 | BDL | BDL | 163 | * |
| 05.03.2020 | BDL | BDL | 50 | * |
| 07.03.2020 | BDL | 11 | 48 | * |
| 09.03.2020 | BDL | BDL | 57 | * |
| 11.03.2020 | BDL | BDL | 69 | * |
| 13.032020 | BDL | BDL | 67 | 13 |
| 15.03.2020 | BDL | 10 | 76 | 28 |
| 17.03.2020 | 4 | 10 | 67 | 12 |
| 19.03.2020 | BDL | BDL | 62 | 55 |
| 21.03.2020 | BDL | BDL | 86 | 42 |
| **Maximum** | 4 | 15 | 163 | 55 |
| **Minimum** | **BDL** | **BDL** | 48 | 12 |
| **% exceedence** | 0 | 0 | 10% | NIL |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 10 days for $SO_2$ and $NO_2$ & PM $_{10}$ and PM $_{2.5}$ for 5 Days. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 1 occasion (NIL on two consecutive monitoring days), and $PM_{2.5}$ has not exceeded for total of 10 days monitored. The field observations indicated that exceedence occurrences on accounts of sports /football matches on the open ground near the school and other anthropogenic activities such as burning of biomass (leaves, foliage, twigs etc) in and around the areas, sweeping and cleaning activities and movements of vehicles Low density (Light and Medium Vehicles). No shiny particles seen at this location during the time of monitoring.

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**Table 03 E2: L-5Location : E-QDT: 1000mtrs : within the premises of Shree Betal Temple, Navelim, February - March 2020**

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 24.02.2020 | BDL | BDL | 168 | 36 |
| 26.02.2020 | BDL | 17 | 92 | * |
| 28.02.2020 | BDL | BDL | 106 | 81 |
| 01.03.2020 | 4 | BDL | 90 | 46 |
| 03.03.2020 | BDL | BDL | 111 | 62 |
| 05.03.2020 | BDL | 10 | 102 | 23 |
| 07.03.2020 | BDL | 10 | 96 | 34 |
| 09.03.2020 | BDL | BDL | 121 | 50 |
| 11.03.2020 | BDL | BDL | 92 | 23 |
| 13.03.2020 | BDL | 9 | 121 | 31 |
| 15.03.2020 | BDL | 9 | 142 | 59 |
| 17.03.2020 | BDL | BDL | 109 | 58 |
| 19.03.2020 | BDL | BDL | 131 | 30 |
| 21.03.2020 | BDL | BDL | 88 | 84 |
| **Maximum** | **4** | **17** | **168** | **84** |
| **Minimum** | **BDL** | **BDL** | **88** | **23** |
| **%time exceedence** | 0 | 0 | 64.28 % | 23.07 % |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 14 days for $SO_2$ $NO_2$ and PM $_{10}$ and PM $_{2.5}$ for 13 days. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 9 occasions (Four times on two consecutive monitoring days) for total of 14 days monitored, and $PM_{2.5}$ has exceeded on 03 occasions (NIL on two consecutive monitoring days) for total of 13 days monitored. The field observations indicated construction work within the temple premises, open Burning and other anthropogenic activities such as burning of biomass (leaves, foliage, twigs etc) and movements of vehicles low to medium density (Light and Medium Vehicles). Shiny black particles were also seen settled on the instrument as well as the platforms on the said site.

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Table 03 F2 : L-6 : S-QDT: 800 mtrs within the premises of Shree Rampurush Temple, Betki, Khandola February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 03.03.2020 | BDL | 9 | 83 | * |
| 05.03.2020 | BDL | 9 | 112 | 23 |
| 07.03.2020 | BDL | BDL | 138 | 46 |
| 09.03.2020 | BDL | BDL | 120 | 11 |
| 11.03.2020 | BDL | BDL | 85 | 11 |
| 13.03.2020 | BDL | BDL | 85 | * |
| 15.03.2020 | BDL | 9 | 129 | 7 |
| 17.03.2020 | 4 | 13 | 92 | 11 |
| 19.03.2020 | * | * | * | * |
| 21.03.2020 | * | * | * | * |
| **Maximum** | 4 | 13 | 138 | 46 |
| **Minimum** | **BDL** | **BDL** | 83 | 7 |
| **%time exceedence** | 0 | 0 | 50.0% | NIL |
| NAAQS (2009) Limits | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 8 days for $SO_2$, $NO_2$ & PM $_{10}$ and PM $_{2.5}$ monitored for 6 days. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 4 occasions (Two occasion on two consecutive monitoring days), and $PM_{2.5}$ has exceeded on NIL occasions (NIL on Two consecutive monitoring days) for total of 8 days monitored. The field observations indicated burning of biomass (leaves, foliage, twigs etc) Sweeping and movements of vehicles Low density (Light and Medium Vehicles). No shiny particles seen at this location during the time of monitoring.

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The Ambient Air Quality Monitoring was conducted from Feb-Mar.20, at 6 locations in and around M/s. Vedanta Limited Pig Iron Plant in all 4 geographic quadrants from the boundary of the PIP unit.

The Particulate Matter monitored ($PM_{10}$ and $PM_{2.5}$) was found to be exceeding the limits specified in Schedule VII of the National Ambient Air Quality Standards in all the 4 quadrants monitored in Feb-Mar'20. However this exceedance was found to be lesser in the Western Quadrant and Northern Quadrants as compared to the Eastern and Southern Quadrants.

As per field observations, anthropogenic activities in the vicinity included burning of biomass (leaves, foliage, twigs etc) alongwith plastic, movement of vehicles was evident. Shiny black particles were seen settled on the instrument as well as the platforms on the said sites. The Board has conducted AAQM till 21/3/2020 and thereafter was discontinued due to Janta Curfew on 22/3/2020and further lockdown due to pandemic COVID-19.

**Dust fall Measurements**

The Board has conducted Dust fall measurements to measure the dust settled in the areas at 4 locations. The following are the site were dustfall measurements taken.

1. Within the premises of Shree Shantadurga Amriteshwar Temple, Amona
2. within the premises of Govt. High School Betalwada, Amona,
3. within the premises of Shree Betal Temple, Navelim
4. Within the Premises of Shree Rampurush Temple, Betki, Khandola.

The Dust samplers were place at the above sites for a period of 30 days.

The sampling has been completed and analysis of the same is under completion.

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## Stack/Source emission Monitoring

The Board has conducted the stack/Source emission monitoring at the duct before ladle dumping chamber in to bag house and after bag house. The Total Particulate Matter before bag House is 31 mg/Nm3 and after bag house is 18 mg/Nm3. It may be seen from the reports that the TPM decreases at 41.93% as per the stack emission reports conducted by the Board. Stack Reports *Attached.*

(e) The Board will carry out Source Apportionment study to ascertain the percentage of contribution of plant to the Particulate Matter of the ambient air quality of the surrounding areas including chemical speciation of the dust collected.

The two studies at (c) and (e) has been proposed through NEERI. The draft proposal of NEERI has been accepted by the Board. Presently there is delay in processing due to the COVID-19 pandemic.

**Place: Saligao Goa**

**Date: 22/06/2020**

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Belalwada Amona, Goa
Date . 28/04/2020

To

The Chairman / Member Secretary
Goa State Pollution Control Board
Saligao, Bardez, Goa

Subject: Stop the pig iron plant no 3 at Navelim village and pig iron plant at amona village of Vedanta limited.

Sir

I am informed you that Vedanta Limited at Amona Navelim in Bicholim Taluka has three pig iron plants now in lockdown period they have operated his pig iron plant for production of pig . In your office as given instruction of bag house for pollution purpose now they are not constructed the bag house and they have started the operation of pig iron plant in Amona and Navelim and surrounding area of the above plant has polluted with graphite particles and Dangerous smell came of above factory and big sound came from above plant your office has not taken any action against above company of pig iron plant and coke plants and sinter plant now operation of pig iron plant and coke plant the graphite particle and coke powder has spread on all houses and all surrounding trees in vicinity of above plant.

So kindly stop the operation of the above plants to save the life of small children which is recently born, school children, including pregnant women and elders also all the trees and animals and birds and also fish of Mandovi River

Kindly take immediate action and stop the operation of the Amona and Navelim plant of Vedanta Ltd.

Thanking you

Khemlo S.Sawant

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# INSPECTION REPORT

Sub: Stop the Pig Iron Plant no. 3 at Navelim village and Pig Iron Plant at Amona village of Vedanta Limited

Ref: Complaint received from Mr. Khemlo Sawant dated 28/04/2020

As directed, the undersigned officials of the Board, Mr. Ganpat Naik (SA) and Mr. Amit Shanbag (JEE) carried out a site inspection on 20/05/2020 with regards to complaint received from Mr. Khemlo Sawant against M/s Vedanta Limited (hereafter referred to as the "unit"). Mr. Khemlo Sawant was present during the inspection.

## OBSERVATIONS MADE:

The following sites were inspected by the inspection team along with the complainant:

1. Amona Junction
    - This site is located approx 250 meters from the Vedanta Pig Iron Plant boundary.
    - Shiny particles are seen deposited on the leaves of the plants and trees at the site.
2. Water tank near the BSNL tower
    - This site is located approx 20 meters from the Vedanta Pig Iron Plant boundary (towards the North).
    - Shiny particles are seen deposited on the leaves of the plants and trees at the site.
3. Cashew plantation in Survey no. 61/1 of Amona village
    - This site is located approx 150 meters from the Vedanta Pig Iron Plant boundary (towards the North).
    - Shiny particles are seen deposited of the leaves of the trees.
4. Maina junction
    - This site is located between the Sinter plant and Metcoke-expansion units.
    - Odour was felt at the site which could possibly be attributed to the heating of coal.
    - Dust settled at the road at the junction was getting airborne due to the movement of heavy vehicles
5. Residential house of Shri. Ramchandra Naik (Maina)

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- [illegible] from the Vedanta Sinter Plant boundary towards the West.
- Dust was observed settled on the tree leaves and house roof

6. Residential house of Shri Khemlo Sawant (Near Betal temple, Betalwada, Amona)
    - This residential house is located approx 0.7 kms from the Vedanta Pig Iron Plant boundary (towards the West).
    - Shiny particles are seen deposited on the leaves in the trees/plants and the roof of the house.

The following observations were made with regards to the directions issued by the Board vide order no. 1/25/19-PCB/LD-249 dated 09/09/2019

| Sr No | Direction issued | Present Status |
|---|---|---|
| 1 | Install additional water fog cannon systems with maximum throw in both horizontal and vertical 360° on a 24 hours basis to cover the entire radius around the Blast Furnace operational area to prevent fugitive emissions and an additional wet screen of fine mesh of a suitable material like jute of similar around the periphery of the core blast furnace activity so as to maintain the air quality in and around the factory premises till the upgraded system is installed | a) Presently total of three water fog canons are installed. One near the ladle dumping area, one at the cooling tower and one at the crane walkway. At the time of inspection the fog cannons were in operation.<br>**COMPLIED**<br>b) Unit has provided sprinklers atop the existing wind screen located along the periphery near the Pig Casting machine area so as to maintain the screen in wet condition.<br>**COMPLIED.** |
| 2 | In order to ascertain the efficiency of the above recommendations of pollution control of fugitive and process emission, the unit shall monitor post monsoon and after installation of the recommended measure for the following: | Unit is yet to carry out the dust fall measurement and chemical analysis to ascertain the graphite percentage. Unit representative informed that the dust fall measurement will be carried out post installation of all the measures. Unit has sought details of at least three agencies |

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| | | |
|---|---|---|
| | [illegible] | which shall conduct studies of chemical specifications as required. |
| | 2 Ambient air monitoring and chemical specifications to ascertain the percentage of graphite in the participation | YET TO BE COMPLIED. MONITOIRNG IN PROGRESS |
| 3 | Submit and action plan compliance report with regards to the installation of the additional water fog cannon system and additional wet windscreen | Unit has submitted an action plan vide letter dated 27/09/2019. Unit has stated that the<br>a) Installation of the bag house for the Blast Furnace 2 will be done by March 2020.<br>b) The unit has completed fog cannon installation (3 nos) and installation of water sprinklers on the existing windscreen will be done by October 2019.<br>c) Board may provide Terms of Reference for conducting the environmental audit and also the list of parties for conducting the audit.<br>d) Dust fall measurement will be done after the installation of the above measures.<br>e) The existing ambient air quality monitoring will be continued. Unit has sought details of at least three agencies which shall conduct studies of chemical specifications as required.<br>**COMPLIED** |
| 4 | Installation of the Bag house for blast furnace 2 | The bag house installation and commissioning was to be completed by 31.03.2020. The company vide email dated |

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| | | |
|---|---|---|
| | | 23.03.2020 has informed the Board regarding delay in the installation of the Blast Furnace 2 baghouse due to the ongoing situation from COVID 19 pandemic and the resultant nationwide lockdown since 25th March 2020 limiting the movement of manpower and equipment.<br>YET TO BE COMPLIED |

RECOMMENDATIONS:

1. The Board may consider the reply made by the unit with regards to the delay installation of the additional bag house due to the ongoing situation from COVID 19 pandemic and the resultant nationwide lockdown limiting the movement of manpower and equipment and decide accordingly.

Inspected by:

Mr. Ganpat Naik (SA)

Mr. Amit Shanbag (Jr. Env. Engineer)

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No. 1/25/20-PCB/FLM/3570/Legal/4902

09.07.2020

## SHOW CAUSE NOTICE

WHEREAS, the officials of Goa State Pollution Control Board (hereinafter referred to as the “Board” in short) had conducted an Interim Study of Ambient Air Quality Monitoring for the month of February & March 2020 at 06 locations in and around M/s. Vedanta Limited – Pig Iron Plant (PIP) Amona Plant boundary.

WHEREAS, the study Report and the monitoring data indicated that the Particulate Matter (PM10 & PM2.5) monitored was found to be exceeding beyond limits.

(Copy of the Interim Study Report is attached)

The Board was also in receipt of a complaint from Shri Khemlo S. Sawant, resident of Betalwado, Amona Goa dt. 28/04/2020 regarding pollution caused by your unit. In response the Board officials conducted inspection on 20.05.2020 wherein it was observed that shiny particles was seen deposited on the leaves of plants and trees at various locations in the vicinity of your plant premises.

(Copy of the inspection report and complaint is attached)

WHEREAS the Board at its 135th meeting held on 13.12.2018 has delegated its powers to issue, refuse, withdraw and vary consent under section 25, 26 and 27 of the Water Act and under section 21 of the Air Act to the undersigned.

True copy

NOW THEREFORE, in light of the above and in exercise of the powers delegated to the undersigned, under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 the Management of M/s. Vedanta Limited (Pig Iron Plant) located at Survey No. 30 (Part), 41, 42/1, 27 (Part), Village Amona, P.O. Marcela, Bicholim Goa is hereby directed to show cause within a period of 15 days from the date of receipt of this notice, as to why action should not be taken against your unit for violation of the Consent condition under the Air (Prevention and Control of Pollution) Act, 1981.

TAKE NOTE, that your failure to comply with the aforesaid notice will compel the Board to initiate legal action as per the provisions of the said Acts, without any further notice.

Issued on this 9th day of July 2020

Sd/-

(Dr. Shamila Monteiro)
Member Secretary
For Goa State Pollution Control Board

To:

M/s. Vedanta Limited
Sesa Ghor, 20 EDC Complex
Patto, Panaji Goa

Copy to:

1. Shri Khemlo S. Sawant, resident of Betalwado, Amona Goa
2. Office copy
3. Guard file
4. Legal file

# Interim Report

## Interim Report on AAQM at Amona, Betki and Navelim Feb & March 2020.

The Goa State Pollution Control Board has conducted Ambient Air Quality Monitoring at 06 locations in 04 geographic quadrants at distances of 250 mtrs , 500 mtrs and 1000 mtrs respectively, around Pig Iron Plant (PIP) Amona plant boundary accordingly the Board has conducted the AAQM for the Month of February & March 2020 at 06 Ambient Air Quality Monitoring locations in and around the M/s. Vedanta Ltd; Pig Iron Plant –Amona.

The following are the locations were the Board has conducted the AAQM during the month of February-March 2020.

| SI.No. | Location | Lat. and Log. of the site |
|---|---|---|
| | **Western Quadrant** | |
| 1. | Shri. Mahalaxmi Ravalnath Temple, Amona (Western Quadrant W boundary limits of PIP Amona-350 mts Approx) | N15$^0$31'50.10"<br>E 73$^0$58'48.10" |
| 2. | Shri. Shantadurga Amriteshwar Temple, Amona (Western Quadrant W boundary limits of PIP Amona-520 mts Approx) | N15$^0$31'50.70"<br>E 73$^0$58'43.40" |
| 3 | Government Primary School, Kharwada, Amona (Western Quadrant W boundary limits of PIP Amona-1.01 Kmts Approx) | N15$^0$31'58.00"<br>E 73$^0$58'25.50" |

| SI.No. | Location | Lat. and Log. of the site |
|---|---|---|
| | **NORTH QUADRANT** | |
| 4. | Government High School, Betalwada, Amona (Northen Quadrant N boundary limits of PIP Amona-500 mts Approx) | N15$^0$31'59.90"<br>E 73$^0$58'58.90" |
| | **EAST QUADRANT** | |
| 5. | Shree Betal Temple, Navelim, Bicholim (Eastern Quadrant E boundary limits of PIP Amona-980 mts Approx) | N15$^0$31'32.33"<br>E 74$^0$0'10.07" |
| | **SOUTH QUADRANT** | |
| 6. | Shree Rampurush Temple, Betki, Khandola (Southern Quadrant S boundary limits of PIP Amona-800 mts Approx) | N15$^0$30'58.03"<br>E 73$^0$58'59.46" |
| | | |

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Table 03 A2: L-1 W-QDT: 250 mtrs : within the premises of Shree Mahalaxmi Ravalnath Temple, Amona –February-March 2020

| Sampling Date | $SO_2$(4 Hourly Sampling) 24 hrly Average | $NO_X$(4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 01.03.2020 | BDL | BDL | 78 | 23 |
| 03.03.2020 | BDL | BDL | 83 | 14 |
| 05.03.2020 | BDL | BDL | 82 | 28 |
| 07.03.2020 | BDL | 14 | 84 | 28 |
| 09.03.2020 | BDL | BDL | 63 | 20 |
| 11.03.2020 | BDL | BDL | 80 | 12 |
| 13.032020 | BDL | 9 | 73 | 28 |
| 15.03.2020 | 4 | BDL | 100 | 10 |
| 17.03.2020 | BDL | BDL | 95 | 33 |
| 19.03.2020 | BDL | BDL | **121** | 37 |
| 21.03.2020 | BDL | BDL | 88 | 11 |
| **Maximum** | 4 | **14** | **121** | **37** |
| **Minimum** | **BDL** | **BDL** | **63** | **10** |
| %time exceedence | 0 | 0 | 9.09% | nil |
| NAAQS (2009) Limits | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 11 days for $SO_2$ , $NO_2$ PM $_{10}$ and PM $_{2.5}$. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 1 day (NIL on two consecutive monitoring days) and $PM_{2.5}$ has not exceeded on any occasions for total of 11 days monitoring. The field report indicated other anthropogenic in and around the areas such as sweeping, and movements of vehicles medium density (Light and Medium Vehicles). Shiny black particles were also seen settled on the instrument as well as the platforms on the said site.

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Table 03 B2: L-2W-QDT: 500 mtrs: within the premises of Shree Shantadurga Amriteshwar Temple, Amona –February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NO (4 Hourly Sampling) 24 hrly Average | PM$_{10}$ (8 Hourly Sampling) 24 hrly Average | PM$_{2.5}$ (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 24.02.2020 | BDL | 18 | 153 | 38 |
| 26.02.2020 | BDL | 14 | 82 | 36 |
| 28.02.2020 | BDL | BDL | 94 | 77 |
| 01.03.2020 | BDL | BDL | 81 | 38 |
| 03.03.2020 | BDL | BDL | 90 | 27 |
| 05.03.2020 | BDL | BDL | 61 | 15 |
| 07.03.2020 | BDL | 12 | 95 | 07 |
| 09.03.2020 | BDL | BDL | 78 | 37 |
| 11.03.2020 | BDL | BDL | 72 | 22 |
| 13.03.2020 | BDL | BDL | 96 | 42 |
| 15.03.2020 | BDL | 10 | 123 | 50 |
| 17.03.2020 | 5 | BDL | 98 | 20 |
| 19.03.2020 | BDL | BDL | 220 | 26 |
| 21.03.2020 | BDL | BDL | 97 | 32 |
| **Maximum** | 5 | 18 | 220 | 77 |
| **Minimum** | **BDL** | **BDL** | **61** | **07** |
| **%time exceedence** | 0 | 0 | 21.42% | 7.14% |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 14 days for$SO_2$, $NO_2$, PM $_{10}$ and PM $_{2.5}$. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 3 occasions (NIL on two consecutive monitoring days), and $PM_{2.5}$ has exceeded on 1 occasion ( NIL on two consecutive monitoring days) for total of 14 days monitored. The field report indicated local sweeping and other anthropogenic activities in and around the areas, and movements of vehicles medium density (Light and Medium Vehicles). Shiny black particles were still seen settled on the instrument as well as the platforms, on the said site

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Table 03 C2: L-3: W-QDT: 1000 mtrs : within the premises of Govt. Primary School Kharwada, Amona February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 01.03.2020 | BDL | BDL | 90 | 34 |
| 03.03.2020 | BDL | BDL | 64 | 48 |
| 05.03.2020 | BDL | 10 | 63 | 25 |
| 07.03.2020 | BDL | 12 | 53 | 18 |
| 09.03.2020 | BDL | BDL | 70 | 13 |
| 11.03.2020 | BDL | BDL | 51 | 19 |
| 13.032020 | BDL | BDL | 51 | 9 |
| 15.03.2020 | BDL | 11 | 94 | 23 |
| 17.03.2020 | 4 | 15 | 67 | 24 |
| 19.03.2020 | BDL | BDL | 93 | 18 |
| 21.03.2020 | BDL | BDL | 46 | 19 |
| **Maximum** | **4** | **15** | **94** | **48** |
| **Minimum** | **BDL** | **BDL** | **46** | **9** |
| **% excedence** | 0 | 0 | NIL | NIL |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 11 days for PM $_{10}$ and PM $_{2.5}$, $SO_2$ and $NO_2$. It is observed that all the parameters ie. PM$_{10}$, PM$_{2.5}$, $SO_2$ and $NO_2$ values are within limit on all 11 days of monitoring. The field report indicated sweeping work in and around the areas, Biomass Burning (leaves, foliage, twigs etc), and movements of vehicles low density (Light and Medium Vehicles).

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**Table 03 D2: L-4: N-QDT: 500 mtrs: within the premises of Govt. High School Betalwada, Amona, February - March 2020**

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 03.03.2020 | BDL | BDL | 163 | * |
| 05.03.2020 | BDL | BDL | 50 | * |
| 07.03.2020 | BDL | 11 | 48 | * |
| 09.03.2020 | BDL | BDL | 57 | * |
| 11.03.2020 | BDL | BDL | 69 | * |
| 13.032020 | BDL | BDL | 67 | 13 |
| 15.03.2020 | BDL | 10 | 76 | 28 |
| 17.03.2020 | 4 | 10 | 67 | 12 |
| 19.03.2020 | BDL | BDL | 62 | 55 |
| 21.03.2020 | BDL | BDL | 86 | 42 |
| **Maximum** | 4 | 15 | 163 | 55 |
| **Minimum** | **BDL** | **BDL** | 48 | 12 |
| **% exceedence** | 0 | 0 | 10% | NIL |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 10 days for $SO_2$ and $NO_2$ & PM $_{10}$ and PM $_{2.5}$ for 5 Days. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 1 occasion (NIL on two consecutive monitoring days), and $PM_{2.5}$ has not exceeded for total of 10 days monitored. The field observations indicated that exceedence occurrences on accounts of sports /football matches on the open ground near the school and other anthropogenic activities such as burning of biomass (leaves, foliage, twigs etc) in and around the areas, sweeping and cleaning activities and movements of vehicles Low density (Light and Medium Vehicles). No shiny particles seen at this location during the time of monitoring.

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**Table 03 E2: L-5Location : E-QDT: 1000mtrs : within the premises of Shree Betal Temple, Navelim, February - March 2020**

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 24.02.2020 | BDL | BDL | 168 | 36 |
| 26.02.2020 | BDL | 17 | 92 | * |
| 28.02.2020 | BDL | BDL | 106 | 81 |
| 01.03.2020 | 4 | BDL | 90 | 46 |
| 03.03.2020 | BDL | BDL | 111 | 62 |
| 05.03.2020 | BDL | 10 | 102 | 23 |
| 07.03.2020 | BDL | 10 | 96 | 34 |
| 09.03.2020 | BDL | BDL | 121 | 50 |
| 11.03.2020 | BDL | BDL | 92 | 23 |
| 13.03.2020 | BDL | 9 | 121 | 31 |
| 15.03.2020 | BDL | 9 | 142 | 59 |
| 17.03.2020 | BDL | BDL | 109 | 58 |
| 19.03.2020 | BDL | BDL | 131 | 30 |
| 21.03.2020 | BDL | BDL | 88 | 84 |
| **Maximum** | **4** | **17** | **168** | **84** |
| **Minimum** | **BDL** | **BDL** | **88** | **23** |
| **%time exceedence** | 0 | 0 | 64.28 % | 23.07 % |
| **NAAQS (2009) Limits** | 80 | 80 | 100 | 60 |

**REMARKS:** The monitoring was conducted for a total of 14 days for $SO_2$ $NO_2$ and PM $_{10}$ and PM $_{2.5}$ for 13 days. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 9 occasions (Four times on two consecutive monitoring days) for total of 14 days monitored, and $PM_{2.5}$ has exceeded on 03 occasions (NIL on two consecutive monitoring days) for total of 13 days monitored. The field observations indicated construction work within the temple premises, open Burning and other anthropogenic activities such as burning of biomass (leaves, foliage, twigs etc) and movements of vehicles low to medium density (Light and Medium Vehicles).Shiny black particles were also seen settled on the instrument as well as the platforms on the said site.

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Table 03 F2 : L-6 : S-QDT: 800 mtrs within the premises of Shree Rampurush Temple, Betki, Khandola February - March 2020

| Sampling Date | SO2 (4 Hourly Sampling) 24 hrly Average | NOX (4 Hourly Sampling) 24 hrly Average | PM10 (8 Hourly Sampling) 24 hrly Average | PM2.5 (8 Hourly Sampling) 24 hrly Average |
|---|---|---|---|---|
| 03.03.2020 | BDL | 9 | 83 | * |
| 05.03.2020 | BDL | 9 | 112 | 23 |
| 07.03.2020 | BDL | BDL | 138 | 46 |
| 09.03.2020 | BDL | BDL | 120 | 11 |
| 11.03.2020 | BDL | BDL | 85 | 11 |
| 13.03.2020 | BDL | BDL | 85 | * |
| 15.03.2020 | BDL | 9 | 129 | 7 |
| 17.03.2020 | 4 | 13 | 92 | 11 |
| 19.03.2020 | * | * | * | * |
| 21.03.2020 | * | * | * | * |
| **Maximum** | 4 | 13 | 138 | 46 |
| **Minimum** | **BDL** | **BDL** | 83 | 7 |
| %time exceedence | 0 | 0 | 50.0% | NIL |
| NAAQS (2009) Limits | 80 | 80 | 100 | 60 |

REMARKS: The monitoring was conducted for a total of 8 days for $SO_2$, $NO_2$ & PM $_{10}$ and PM $_{2.5}$ monitored for 6 days. It is observed that $SO_2$ and $NO_2$ values are within limit while $PM_{10}$ has exceeded on 4 occasions (Two occasion on two consecutive monitoring days), and $PM_{2.5}$ has exceeded on NIL occasions (NIL on Two consecutive monitoring days) for total of 8 days monitored. The field observations indicated burning of biomass (leaves, foliage, twigs etc) Sweeping and movements of vehicles Low density (Light and Medium Vehicles). No shiny particles seen at this location during the time of monitoring.

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The Ambient Air Quality Monitoring was conducted from Feb-Mar.20, at 6 locations in and around M/s. Vedanta Limited Pig Iron Plant in all 4 geographic quadrants from the boundary of the PIP unit.

The Particulate Matter monitored (PM $_{10}$ and PM $_{2.5}$) was found to be exceeding the limits specified in Schedule VII of the National Ambient Air Quality Standards in all the 4 quadrants monitored in Feb-Mar'20. However this exceedance was found to be lesser in the Western Quadrant and Northern Quadrants as compared to the Eastern and Southern Quadrants.

As per field observations, anthropogenic activities in the vicinity included burning of biomass (leaves, foliage, twigs etc) alongwith plastic, movement of vehicles was evident. Shiny black particles were seen settled on the instrument as well as the platforms on the said sites. The Board has conducted AAQM till 21/3/2020 and thereafter was discontinued due to Janta Curfew on 22/3/2020and further lockdown due to pandemic COVID-19.

**Dust fall Measurements**

The Board has conducted Dust fall measurements to measure the dust settled in the areas at 4 locations. The following are the site were dustfall measurements taken.

1. Within the premises of Shree Shantadurga Amriteshwar Temple, Amona
2. within the premises of Govt. High School Betalwada, Amona,
3. within the premises of Shree Betal Temple, Navelim
4. Within the Premises of Shree Rampurush Temple, Betki, Khandola.

The Dust samplers were place at the above sites for a period of 30 days.

The sampling has been completed and analysis of the same is under completion.

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Goa State Pollution Control Board, Saligao Goa.

## Stack/Source emission Monitoring

The Board has conducted the stack/Source emission monitoring at the duct before ladle dumping chamber in to bag house and after bag house. The Total Particulate Matter before bag House is 31 mg/Nm3 and after bag house is 18 mg/Nm3. It may be seen from the reports that the TPM decreases at 41.93% as per the stack emission reports conducted by the Board. Stack Reports *Attached.*

(e) The Board will carry out Source Apportionment study to ascertain the percentage of contribution of plant to the Particulate Matter of the ambient air quality of the surrounding areas including chemical speciation of the dust collected.

The two studies at (c) and (e) has been proposed through NEERI. The draft proposal of NEERI has been accepted by the Board. Presently there is delay in processing due to the COVID-19 pandemic.

**Place: Saligao Goa**

**Date: 22/06/2020**

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Goa State Pollution Control Board, Saligao Goa

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Khemlo S. Sawant,
r/o Betalwadi, Amona, Goa

Date: 28/04/2020

To:
The Chairman / Member Secretary
Goa State Pollution Control Board
Saligao Bardez Goa

Sub: Stop the pig iron plant no. 3 at Navelim village and pig iron plant at Amona village of Vedanta Limited

Sir

I am informed you that Vedanta Limited at Amona Navelim in Bicholim Taluka has three pig iron plants now in lockdown period they have operated his pig iron plant for production of pig. In your office as given instruction of bag house of pollution purpose now they are not constructed the bag house and they have started the operation of pig iron plant in Amona and Navelim surrounding area of the above plant has pollution with graphite particles and Dangerous smell came of above factory and big sound came from above plant your office has not taken any action against above company of pig iron plant and coke plants and sinter plant now operation of pig iron plant and coke plant the graphite particle and coke powder has spread on all houses and all surrounding trees in vicinity of above plant.

So kindly stop the operation of the above plants to save the life of small children which is recently born, school children, including pregnant women and elders also all the trees and animals and birds and also fish of Mandovi River.

Kindly take immediate action and stop the operation of the Amona and Navelim plant of Vedanta Ltd.

Thanking you

Sd/-

Khemlo S. Sawant

# INSPECTION REPORT

Sub: Stop the Pig Iron Plant No. 3 at Navelim village and Pig Iron Plant at Amona village of Vedanta Limited

Ref: Complaint received from Mr. Khemlo Sawant dated 28/04/2020

As directed, the undersigned officials of the Board, Mr. Ganpat Naik (SA) and Mr.Amit Shanbag (JEE) carried out a site inspection on 20/05/2020 with regards to complaint received from Mr. Khemlo Sawant against M/s. Vedanta Limited (hereafter referred to as the “unit”). Mr. Khemlo Sawant was present during the inspection.

OBSERVATIONS MADE:

The following sites were inspected by the inspection scam along with the complainant:

1. Amona Junction

    - This site is located approx 250 metres from the Vedanta Pig Iron Plant boundary.

    - Shiny particles are seen deposited on the leaves of the plants and trees at the site.

2. Water tank near the BSN tower

    - This site is located approx 20 metres from the Vedanta Pig Iron Plant boundary (towards the North)

- Shiny particles are seen deposited on the leaves of the plants and trees at the site.

3. Cashew plantation in Survey No. 61/1 of Amona Village

    - This site is located approx 150 metres from the Vedanta Pig Iron Plant boundary (towards the North)

    - Shiny particles are seen deposited on the leaves of the trees.

4. Maina Junction

    - This site is located between the Sinter plant and Metcoke expansion units

    - Odour was felt at the site which could possibly be attributed to the heating of coal.

    - Dust settled at the road at the junction was getting airborne due to the movement of heavy vehicles.

5. Residential house of Shri Ramchandra Naik (Maina)

    - Dust was observed settled on the tree leaves and house roof

6. Residential house of Shri Khemlo Sawant (Near Betal temple, Betalwada, Amona)

    - This residential house is located approx 0.7 kms from the Vedanta Pig Iron Plant boundary (towards the West)

- Shiny particles are seen deposited on the leaves in the trees/plants and the roof of the house.

The following observations were made with regards to the directions issued by the Board vide order no. 1/25/19-PCB/LD-249 dated 09/09/2019

| Sr. No | Direction issued | Present Status |
|---|---|---|
| 1 | Install additional water fog cannon systems with maximum throw in both horizontal and vertical 360 degree on a 24 hours basis to cover the entire radius around the Blast Furnace operational area to prevent fugitive emissions and an additional wet screen of fine mesh of a suitable material like jute of similar around the periphery of the core blast furnace activity so as to maintain the air quality in and around the factory premises till the upgraded system is | a) Presently total of three water fog cannons are installed. One near the ladle dumping areas, one at the cooling tower and one at the crane walkway. At the time of inspection the fog cannons were in operation.<br>COMPLIED<br>b) Unit has provide sprinklers atop the existing wind screen located along the periphery near the Pig Casting machine area so as to maintain the screen in wet condition. |

| | | |
|---|---|---|
| | installed | COMPLIED |
| 2 | In order to ascertain the efficiency of the above recommendations of pollution control of fugitive and process emission, the unit shall monitor post monsoon and after --- of the recommended measure for the following:<br>Ambient air monitoring and chemical specifications to ascertain the percentage of graphine in the participation | Unit is yet to carry out the dust fall measurement and chemical analysis to ascertain the graphite percentage. Unit representative informed that the dust fall measurement will be carried out post installation of all the measures. Unit has sought details of at least three agencies - which shall conduct studies of chemical specifications as required.<br>YET TO BE COMPLIED<br>MONITORING IN PROGRESS |
| 3 | Submit and action plan compliance report with regards to the installation of the additional water fog cannon system and additional wet windscreen | Unit has submitted an action plan vide letter dated 27/09/2019. Unit has stated that the<br>a) Installation of the bag house for the Blast Furnace 2 will be one by March 2020 |

| | | |
|---|---|---|
| | | b) The unit has completed fog cannon installation (3 nos) and installation of water sprinklers on the existing windscreen will be done by October 2019<br>c) Board may provide terms of Reference for conducting the environmental audit and also the list of parties for conducting the audit.<br>d) Dust fall measurement will be done after the installation of the above measures.<br>e) The existing ambient air quality monitoring will be continued. Unit has sought details of at least three agencies which shall conduct studies of chemical |

| | | |
|---|---|---|
| | | specifications as required.<br>COMPLIED |
| 4 | Installation of the Bag house for blast furnace 2 | The bag house installation and commissioning was to be completed by 31.03.2020. The company vide email dated 23.03.2020 has informed the Board regarding delay at the installation of the Blast Furnace 2 baghouse due to the ongoing situation from COVID 19 pandemic and the resultant nationwide lockdown since 25th March 2020 limiting the movement of manpower and equipment<br>YET TO BE COMPLETED |

RECOMMENDATIONS

1. The Board may consider the reply made by the unit with regards to the delay installation of the additional bag house due to the ongoing situation from COVID 19 pandemic and the resultant nationwide lockdown limiting the

movement of manpower and equipment and decide accordingly.

Inspected by:

Sd/-
Mr. Ganpat Naik (SA)

Sd/-
Mr. Amit Shanbag (Jr Env. Engineer)

# ANNEXURE 6

**GOA STATE POLLUTION CONTROL BOARD**
**गोंय राज्य प्रदूषण नियंत्रण मंडळ**
(An ISO 9001-2015, ISO 14001:2015. OHSAS 18001:2007 Certified Board)

Phone Nos. : 0832-2407700
2407701, 2407702
2407703
Tel/Fax No. : 0832-2407700

Email Ids:
Chairman, GSPCB: chairman-gspcb.goa@nic.in
Member Secretary GSPCB: ms-gspcb.goa@nic.in
Environment Engineer, GSPCB: ee-gspcb.goa.nic.in
Scientist, GSPCB: scientist-gspcb.goa@nic.in
Office: goapcb@gspcb.in

No. 10/1/21-PCB /Vol XXII /Tech/5567 02 /07/2021

To,
**Director-Value Added Business**
**Vedanta Ltd, Sesa Iron Ore, Goa**

**Sub: Certified Compliance Report attached with the file for M/s. Vedanta Limited formally known as M/s. Sesa Sterlite Limited/ M/s. Sesa Goa Limited-Manufacturing of Pig iron, sinter, Metallurgical coke, Power plant at Navelim, Bicholim- Goa in the compliance report on Environmental Clearance issued by MoEF & CC.**

**Ref: Your letter no VAB/ENV/21-22/05 dated 24-05-2021**

Sir,

Please find enclosed certified compliance report of M/s Vedanta Ltd. with regards to compliance on Environmental Clearance issued by MoEF & CC.

Yours faithfully,

**(Dr. Shamila Monteiro)**
**Member Secretary**

Copy to:-

| | |
|---|---|
| 1. | Office Copy |
| 2. | Guard file |

True Copy

Near Pilerne Industrial Estate, Opp. Saligao Seminary, Saligao, Bardez, Goa - 403 511

# COMPLIANCE REPORT

NAME OF THE PROJECT: Blast Furnace (0.90 MTPA), Sinter Plant (2 MTPA) Coke Oven Plant (0.63 MTPA) and Waste heat recovery power plant (60 MW) at village Navelim, Bicholim Taluka, North Goa by M/s Vedanta Ltd

ENVIRONMNTAL CLEARANCE: MoEF&CC letter no: J-11011/946/2007-IA.II(I) dated 03/06/2009

LIST OF MAJOR FACILITIES FOR THE EXISTING OLD PLANT COMMISSIONED IN 1992:

2 Blast furnace with a combined capacity – 292000 TPA, Metcoke plant of capacity 322000 TPA, WHRB power plant – 30 MW, Auxiliary facilities of the above units, Gas holder of 5000 m$^3$ capacity, raw material and finish product storage facility.

DATE OF SITE INSPECTION: No fresh site inspection was carried out and the report has been prepared based on earlier observations and submissions made by the unit

M/s Vedanta Ltd (formerly known as Sesa Sterlite limited/ Sesa Goa Limited) is engaged in production of pig iron from blast furnace, sinter, Metllurgical coke from non-recovery type coke ovens and power generation from waste heat recovery power plant. The unit is located in the Village Naveli, of Bicholim taluka, District North Goa, Goa.

**Brief about the Environmental Clearance:**

The environment clearance was initially issued vide Ref No. J-11011/946/2007-IA-II(I) dated 03rd June 2009 to M/s Sesa Industries Ltd was transferred to M/s Sesa Goa Ltd and again the environment clearance was transferred to M/s Vedanta Ltd vide letter dated 5th September 2016 and also the capacity of blast furnace was enhanced to 540000 TPA from 450000 TPA for the first phase. They have also obtained amendments to their Environment Clearances vide orders dated 25/04/2012 for carrying out the project in two phases and changes in plant configuration with particular reference to stack numbers and dimensions. Initially the environment clearance from the Ministry was obtained for the following capacity:

| Sr. No. | Facility | Production Capacity |
|---|---|---|
| 1 | Mini Blast Furnace | 9,00,000 TPA |
| 2 | Sinter | 20,00,000 TPA |
| 3 | Coke Oven | 6,00,000 TPA |
| 4 | Power Plant | 60 MW |

Blast furnace and Sinter Plant having capacity of 540000 TPA and 1 MTPA respectively and operational since 2012. Their Coke Oven plant which is Non Recovery Coke type is having production capacity of 3,00,000 TPA, operational since 2011. Also Waste Heat Recovery Power Plant with capacity 30MW in operation from 2012.

## Blast Furnace

The Blast furnace process consists of charging iron ore lump, sinter and coke along with fluxes from the furnace top and blowing preheated air from the bottom of the furnace for burning the coke to provide heat and reducing gas, required for reducing and melting iron ore.

The reducing gases resulting from the combustion of the coke ascend to the top of the furnace through the charge mix descending down. During this counter current flow of charge and gas, the sensible heat and reducing power of gas is used for the reduction of iron ore in the charge.

## Sinter Plant

Sinter Plant is provided for agglomeration of iron ore fines along with fluxes and fuel for optimum utilisation in iron making through blast furnace route

Sinter Plant consists of:

- Flux & fuel crushing for ensuring uniform -3mm fraction of flux and fuel,
- Proportioning building for blending of different iron ore sources, in-plant solid waste generation and crushed flux & fuel, this is homogenously mixed before entering sinter machine.
- Sinter machine with an ignition furnace to maintain the regime of sintering process.
- Sinter cooler cools the product sinter after crushing and before screening.
- Sinter screening for separating various size fractions of product sinter, after cooling & crushing, which is then stored in product sinter bunker.

Pollution control measures installed includes Electrostatic precipitator (ESP) provided to sinter plant at Head End ESP and Tail End ESP, de-dusting system provided to Flue and flux crushing, proportioning room and sinter screening room of sinter plant. Gas cleaning plant is provided to blast furnace along with de-dusting system for stock house and cast house. The dust collected is then used in sinter plant.

**Coke Plant:**

The coking coal is received in ocean going bulk carriers. The vessels are discharged at Panaji or Mormugao Port in to barges using ship's cranes and grabs and brought to Amona jetty through river navigation. The coal is then unloaded from barges at Jetty by grab un-loader fitted at the jetty in hoppers and then carried to the coal shed by using tippers and/or conveyors. The coal is stack piled in the covered shed. The un-loading jetty at Amona is having 4 cranes with grab buckets for unloading of coal from barges with the arrangement of receiving hopper for loading of tippers or for placing the coal on conveyor belts. The various grades of coals are stacked in the coal shed. The coal from the coal shed is then charged in to a ground hopper by using wheel loaders in the required blend proportions and crushed in a coal crusher to the required grain size and conveyed to the compacting station. At the compacting station a coal cake is formed by compacting coal using vibrators and by adding requisite moisture. The coal cake is then placed on a charging machine which travels on the rails alongside the ovens and pushes the coal cake in the desired oven. Immediately after charging of the compacted coal cake in the ovens, the coal absorbs heat from the surrounding refractory and volatile matter starts evolving and burns. Air for combustion of volatile matters is supplied through the openings in doors and in the sole flues and negative draft is maintained in the entire system by a natural draft created by the stack and/or the ID fans connected to the WHR Boiler stacks. Coke after readiness is pushed by the Ram Pusher Machine into the waiting Hot Coke Machine. The red hot coke is then quenched in the quench tower, passed through the coke cutter and the screens for separating various size fractions. Blast furnace coke (20-7mm) and coke fines (-6mm) will be directly supplied to the new blast furnace and sinter plant respectively by a conveyor belt system. All other grades are stockpiled at coke stockyard. Foundry grade coke (+70mm) will be processed through the screens installed at the existing coke plant at coke stockyard as per customer requirements. Most of the coke fines (below 6mm) will be supplied to the sinter plant for manufacture of sinter feed to the blast furnace. Some coke fines will be dried and ground to a fine mesh in a Coke Draying & Grinding Plant (CDGP) installed in the existing coke oven plant and charged back into the coke ovens. The other grades are sold in the market. The quench water is recycled & reused in a closed system circuit through the settling pond. Make up water is added as per requirement. There is no effluent generation and the coke fines in the quench water stream are collected from the settling pond. All the combustible in the volatile matter burn in the ovens and in the flues and the resulting flue gases is supplied to the Waste Heat Recovery Power Plant.

**Waste Heat Recovery Power Plant:**

The 35 MW waste heat recovery power plant utilises the heat from the waste gases from the coke plant & blast furnace. The 35 MW power plant installation comprises 02 Nos. waste heat recovery boilers (Capacity 65 TPH each) with 2 external BFG combustors; a water cooled condenser, cooling tower & 30 MW Steam turbine coupled to 37.5 MVA alternator. The power plant generates clean power from waste heat thereby replacing $CO_2$ emissions from the thermal plants.

However, in 2010, a writ petition came to be filed in the High Court of Bombay at Goa against the expansion project which was subsequently converted into a PIL bearing No PIL WP No. 4 of 2011. The Hon'ble High Court of Bombay vide judgment dated 06.03.2012 dismissed the PIL. This order of the Hon'ble High Court came to be challenged by way of appeal before the Hon'ble Supreme Court of India in form of SLP No. 31647/2012. The Hon'ble Supreme Court vide its order dated 07.11.2016 had transferred the matter (the SLP) to NGT Principle Bench at Delhi for consideration denovo uninfluenced by the view taken by the High Court. The Principle bench of NGT Delhi on 4th December 2017 disposed of the challenge to the project with a direction to the Ministry of Environment. Forest & Climate change to examine, if any, additional or further conditions are required to be imposed on the project proponent for grant of Environmental Clearance.

In this regard, it was informed that a personal hearing was conducted in the Ministry for both the parties i.e, petitioners and Vedanta Limited on 16th July 2018. Then the Ministry asked for a joint site inspection to be conducted by Regional Office Bangalore and Goa State Pollution Control Board in order to prescribe conditions feasible and implementable. Thus the inspection was conducted to this unit on 31st August 2018 and on basis of the site inspection and the consideration of the issues raised by the petitioner the following additional points for improvement are proposed to the Ministry to be incorporated as additional safeguard.

1. Additional filter beds, arrester walls shall be provided along the storm water drainage for settlement of suspended particles and to prevent silt. The runoff water shall be diverted into the settling ponds to prevent any siltation of river/ nallahs/ fields.
2. All the transportation roads within the project premises shall be fully Asphalted / concreted in phased manner to ensure the reduction of fugitive emissions and to get a clear runoff during monsoon
3. Regular monitoring of ground water quality shall be carried out in one open well of Amona, Navelim and Maina villages in all four seasons and the results shall be submitted to GSPCB
4. One additional Ambient Air monitoring station in consultation with GSPCB shall be established within the project premise towards the adjoining villages and monitoring reports shall be submitted to the Goa State Pollution Control board
5. Additional sprinkling arrangement in the ore stacking area shall be done to control the fugitive dust within the project premise.
6. Secondary emission generated during charging tapping of metal, slag tapping may be controlled by providing a canopy hoods at proper elevation without interfering process & which should be connected to Air pollution controlled device.
7. Besides the regular monitoring arrangement, the No$_x$ & CO levels should be monitored at regular interval within the factory premises in order to maintain the air quality within the Ambient Air Quality Standards.
8. Performance assessment of air pollution control devices provided for blast furnace, sinter plant, coke plan & power plant should be carried out from an approved laboratory annually
9. Increasing the number of plantation by selecting tall species in the project boundary areas which are nearer to the villages.

**The point wise compliance of the conditions stipulated in the Environmental Clearance is furnished in the report**

**CONDITIONS**

| Sr no | Conditions | Compliance |
|---|---|---|
| | **Specific Conditions** | |
| 1 | Provision of ESP, Gas cleaning plant and online stack monitoring facilities | Complied |
| 2 | Provision of Pulse jet bag filters and coke oven gases for power generation | Complied |
| 3 | Submission of data on ambient air quality and stack monitoring to GSPCB | Complied |
| 4 | Control of secondary fugitive emissions from all the sources | Needs Improvement |
| 5 | Total water requirement shall not exceed 16632 m$^3$/day and reuse | Complied |
| 6 | Regular monitoring of influent and effluent water | Complied |
| 7 | All the slag be granulated and provided to cement manufacturers | Needs Improvement |
| 8 | All the fly ash shall be utilized as per the Fly ash notification | Not applicable |
| 9 | Control of vehicular pollution due to transportation | Need Improvement. |
| 10 | 33% of the green belt to be developed | Complied |
| 11 | Comply with the recommendations of the CERP | Complied |
| 12 | The company shall provide housing for construction workers within the site | Agreed to comply |
| | **General Conditions** | |
| 1 | Adhere to the stipulations made by the GSPCB and the state government | Agreed to comply |
| 2 | No further expansion or modification without prior approval | The production of pig Iron for the year 2018-19 is 406022.763 tons, 2019-20 is 441671.2 tons and 2020-21 is 350185.94 tons as against the EC capacity of |

| | | |
|---|---|---|
| | | 540000 tons.<br>However, Writ petition WP/03/2021 filed in the Hon'ble High Court regarding alleged illegal expansion without prior EC. Environmental audit was scheduled for verification of the allegations in the petition, however the same was postponed due to pandemic situation |
| 3 | Gaseous emissions shall conform to the load/ mass based standards | Complied |
| 4 | Four AAQM stations shall be established | Complied |
| 5 | In plant control measures for checking fugitive emissions be adopted | Needs improvement |
| 6 | Industrial waste water shall be properly collected and treated | Complied |
| 7 | Overall noise levels in and around the plant area | Complied |
| 8 | The company shall develop surface water harvesting measures | Complied |
| 9 | Occupational health surveillance of the workers | Complied |
| 10 | Comply with all the measures and safeguards of the EIA/EMP report | Agreed to comply |
| 11 | Earmark adequate funds for the environmental pollution control measures | Complied |
| 12 | A six monthly compliance report shall be submitted to the Board regularly | Complied |
| 13 | Inform the public about the environmental clearance | Complied |
| 14 | Inform the regional office and ministry on date of start of project | Complied |

## DETAILED COMPLIANCE STATUS:

### A. SPECIFIC CONDITIONS:

1. *Electrostatic precipitator shall be provided to the sinter plant and the WHRB based power plant to control gaseous emissions from all the vents/stacks within 100 mg/Nm$^3$. Gas cleaning plant along with the venturi scrubber shall be provided to blast furnace. Online stack monitoring facilities for all the stacks shall be provided to ensure particle emission below 100 mg/Nm$^3$ and data submitted to Ministry's Regional Office at Bangalore, CPCB and GSPCB. Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted.*

Electrostatic Precipitator (ESP) provided to the Sinter Plant at Head End & Tail End of Sinter Machine. Dry Gas Cleaning Plant (GCP) with a dust catcher & bag filters, provided to Blast Furnace. Online stack monitoring facilities is installed for Sinter main stack, Sinter Tail end stack, WHRB-1&2 of Waste Heat Recovery Power plant and Hot Blast Stove of Blast Furnace. Continuous Real time data are connected to GSPCB & CPCB portal. Regular Stack Monitoring & Ambient Air Quality Monitoring is conducted and monthly reports are submitted to GSPCB. Also half yearly reports are submitted to CPCB & MOEF&CC.

2. *Pulse jet bag filters shall be provided to coal crusher, product house, raw material handling areas. Transfer point etc. Bag filters shall be provided at the crusher. Screening and transfer points. The Coke Oven gases shall be fully utilized for power generation. Water sprinkling system and dry fog system shall be provided to control fugitive emissions at the coal handling area and work zone.*

Pulse jet bag filters are provided for coal crusher house, coke screening towers, transfer points and raw material handling sections. Also rain gun sprinklers are provided at raw material yard. Wind screens are installed along the raw material storage yard. Bag house de-dusting system is provided for proportioning bin, sinter screening building, flux and fuel crushing and small de-dusting units for various transfer stations. Coke Oven Flue Gas (COFG) is fully utilized for Clean Power Generation.

3. *Data on ambient air quality stack emission and fugitive emissions shall be uploaded on the company's website and also regularly submitted online to Ministry's Regional office at Bangalore, Goa State Pollution Control Board and*

*Central Pollution Control Board as well as hard copy once in six months. Data on SPM. SO2 and NOx shall also be displayed prominently outside the premises at the appropriate place for the general public.*

Ambient air quality reports and stack monitoring reports are submitted to the GSPCB on regular basis. Six monthly compliance reports are submitted to the GSPCB, CPCB and MoEE&CC regional office on a regular basis. Air quality data is displayed outside the company premises for the general public. The data is also displayed on the company website (https://sesagoaironore.com/sustainability/hse/environment-reports/)

The Board had carried out ambient Air Quality Monitoring in the surrounding villages of Betki, Amona and Navelim. Copy of the AAQM reports of the same are attached at **Annexure "A".**

4. *Secondary fugitive emissions from all the sources including Blast Furnace, Coke Oven and Sinter Plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed.*

Rain guns have been installed at raw material yard for dust suppression. Bag filter de-dusting systems are used to control dust. Wind screen/wind shields are installed at prominent locations. Monitoring is carried out on the regular basis. Both the Blast Furnaces (BF#1 and BF#2) were initially connected to a common bag house filter and the same was in operation since 2011. Subsequently to further improve on efficiency and performance of dust extraction system, the unit has installed additional two bag house filters, one each for Ladle dumping chamber and the other for BF#2 and the initial common bag house system has been retained only for BF#1 independently. The unit has commissioned independent bag house for the ladle dumping chamber in June 2019 and independent bag house for BF#2 in August 2020.

The ambient air quality carried out by the Board in the adjoining villages of Amona and Navelim indicates the presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast furnace operations. The said matter is the subject of the writ petition against the company in the Hon'ble High court. The presence of the shiny particles in the adjoining residential areas indicates that the present system for the emissions from the blast furnace process is not adequate.

5. *Total water requirement shall not exceed 16632 m3/day. The effluent from generated utilities shall be treated in the effluent treatment plant and recycled and reused in the process in blast furnace, sinter plant. dust suppression. Ash moistening, firefighting and green belt development etc. No effluent shall be discharged outside the premises and ' zero' discharge shall be followed.*

The water consumption is approx. 9687.9 m3/day as per the data maintained by the unit The process water from Coke, Blast Furnace, and Sinter Plant is recycled and reused after settling. The Blow down water from their Cooling Towers of Power Plant is let out into Mondovi River after temperature & pH monitoring and reports are submitted to GSPCB monthly.

6. *Regular monitoring of influent and effluent water shall be ensured and treated wastewater shall meet the norms prescribed by the Goa State Pollution Control Board or described under the E(P) Act whichever are more stringent and reports shall be submitted six monthly to the Ministry's Regional Office at Bangalore, GSPCB and CPCB.*

The project authorities are monitoring the blow down water temperature & pH check for their cooling tower of the Power plant before letting it out into Mandovi River. Unit is carrying out monthly monitoring as per the Consent conditions and the report are submitted to GSPCB every month and to MOEF every six monthly as six monthly compliance reports. The data pertaining to the monitoring of cooling water is attached at **Annexure "H"**

7. *All the blast furnace slag shall be granulated and provided to cement manufacturers for further utilization. All the dust from the air pollution control equipments shall be recycled and reused in the Sinter plant. All the other solid wastes shall be disposed off in the environment-friendly manner or provided to authorized recyclers/ reprocessors. Used oil shall also be provided to authorized recyclers only. An action plan for the disposal of fly ash and granulated BF & SMS slag shall be submitted to the Ministry and its Regional Office at Bangalore within 3 months.*

The granulated BF slag is disposed to cement industries. However, presently large quantity of slag (approx 45000 tons) is presently stored in the open within the premises of the Sinter Plant and the same needs to be disposed details of the slag generated and disposed during the last three years is as follows:

| | Slag Generation (In tons) | | | Slag Disposal (in Tons) | | |
|---|---|---|---|---|---|---|
| | 2018-19 | 2019-20 | 2020-21 | 2018-19 | 2019-20 | 2020-21 |
| PID2 | 173417 | 210389 | 188291 | 228253 | 127318 | 277349 |

Dust from air pollution control equipment is recycled & reused in Sinter Plant. Used oil is disposed off through the authorized recyclers. Disposal of Fly Ash & SMS slag is not applicable as there is no steel making provision and the power plant is based on waste heat hence thermal coal is not used for power generation. The non-applicability of fly ash & SMS slag is communicated to MOEF through letter dated 15/09/2009.

8. *All the fly ash shall be utilized as per Fly Ash Notification, 1999 and amended in 2003.*

It was informed that this condition is not applicable as their power plant is based on the clean development mechanism and operates on waste heat recovery.

9. *Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.*

Dusty conditions are observed on the roads near the material entry gate of Sinter Plant (from the Naveli Substation junction to Maina Junction and further to Amona Jetty gate) possibly due to spillage of materials and carryover of the spilled material and mud with the heavy vehicles. Due to inefficient cleaning, the dust is re-suspended in the air due to vehicular movement and also due to manual cleaning of the roads.

Unit has provided rain Guns (Sprinkling system) have been installed in the raw material yard and water tankers are used for dust suppression. Sprinklers for dust suppression has been installed at Pig Iron Dispatch yard. It was informed that vehicles with PUC certificate are only permitted and checks are done at the entry for all the vehicles.

10. *Green belt shall be developed in 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO.*

It was informed that in 54 Ha out of 161Ha area is ear marked for green belt and Plantation was carried out in consultation of Goa Forest Development Corporation (GFDC) as well as in-house guidance from horticulture team. The unit undertakes plantation in the monsoon in the greenbelt area for increasing the plant density. As per the submission made, the plantation is carried out yearly is 2018 – 3000 plantation, 2019 – 1000 plantation and 2020 – 1000 plantation.

*11. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Sector shall be strictly implemented.*

CREP conditions are applicable for blast furnace and non-recovery coke plant have been complied, proactively

*12. The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed' after the completion of the project.*

It was informed that they have provided during their construction and now all temporary housing structures have been decommissioned after the project was operational.

**A. General Conditions:-**

1. *The project authorities must strictly adhere to the stipulations made by the Goa Pollution Control Board (GPCB) and the State Government.*

Unit has agreed to comply with the consent conditions and any subsequent directions of the GSPCB and also the state government.

2. *No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.*

The unit insists that no expansion or modification in the plant was carried out without prior approval of MoEFCC. Presently, a Writ petition 10/2021 has been filed in the Hon'ble High Court regarding alleged illegal expansion and increase in production against the unit. The GSPCB had scheduled an Environmental audit to verify the allegations made in the petition; however the same was postponed due to pandemic situation. The GSPCB is in the process of verification of the allegations made.

3. *The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stacks to monitor SPM and interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit. NOX burners shall be installed to control NOX levels.*

The project authorities have installed online stack monitoring instrument for their main process stack of Sinter plant and both WHRB stacks of Power Plant to track TPM and is connected to GSPCB & CPCB server for real time data transmission. The stacks connected to the coke oven are closed from top and coke oven flue gases with temp of about 1100°C are diverted to waste heat recovery boiler for clean power generation. All other dedusting stacks are monitored and reports are submitted to GSPCB.

4. *At least four ambient air quality-monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM. S02 and N02 are anticipated in consultation with the GPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bangalore /GPCB / CPCB once in six months.*

Ambient air quality monitoring is carried out at GSPCB approved locations and the monthly reports are submitted to GSPCB. Two Continuous Ambient Air Quality Stations have been set up. Data on Air Quality, Stack emissions is submitted once in six months to MOEF (RO) through 6 monthly compliance reports. Monthly AAQM reports are submitted to GSPCB. Ambient Air Quality Reports and Stack Monitoring Reports are submitted regularly to MOEF, CPCB & GSPCB along with six monthly compliance reports.

Summary of the stack monitoring carried out by the GSPCB is attached herewith at **Annexure "B"**

5. *In-plant control measures for checking fugitive emissions from all the vulnerable sources like Sinter plant, Blast Furnace area etc. shall be adopted. Further. Specific measures like water sprinkling shall be carried out at the stock piles of raw material, stacker. Reclaimer, transfer points etc. Dust extraction system and bag filters shall be provided to the sinter plant. stock house and blast furnace. Centralized de-dusting system i.e. collection of fugitive emissions through suction hood and subsequent treatment through bag filter or any other device and finally emitted through a stack of appropriately designed shall be provided. Fugitive emissions shall be controlled, regularly monitored and records maintained.*

The project authorities have provided individual Pulse Jet Bag Filters are provided for Cast House, Stock House of Blast Furnace and Flux & Fuel House, Proportioning House, Sinter Screening Houseof Sinter Plant. These Pulse jet bag filters cover various capture points such as screening, transfer stations, etc. Electrostatic precipitators (ESPs) have been provided at Head & Tail end of Sinter Machine of the Sinter Plant. Rain gun sprinklers are provided & operated at the Raw material yard of the Sinter Plant & Blast Furnace. Windscreens are also installed along the raw material boundary wall. Windshields are installed at the Pig Iron dispatch yard. All the stacks are of adequate height as per the design. Dust suppression system installed at raw material hoppers.

The ambient air quality carried out by the Board in the adjoining villages of Amona and Navelim indicates the presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast furnace operations. The said matter is the subject of the writ petition against the company in the Hon'ble High court.

6. *Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December. 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.*

All Process water from Coke, Blast Furnace, and Sinter Plant is recycled and reused after appropriate treatment. Blow down from *Cooling* Tower of Power Plant is let out into Mandoviriver after temperature & pH adjustment as per GSPCB. Cooling tower blow down is monitored every month before disposal into river and reports are submitted to GSPCB.

7. *The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods. silencers. enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).*

The Overall noise levels in and around the plant area is on an average less than 75dB (A). Enclosures, acoustic hoods, silencers, etc. are provided wherever necessary. The ambient noise levels conforms to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time) at the boundary of the plant as per the reports submitted. Copy of the reports is attached herewith at **Annexure "F"**

8. *The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.*

The project authorities have provided necessary surface rain water harvesting and ground water recharging arrangements in their plants. It was told that they have made this as per the advice of Sr. hydro geologist from Water Resource Department (WRD) of Goa. Around 100000 m3 rain water (from mid-June- mid October) is collected in an excavated pit. The stored water is used for process in blast furnace, shell cooling and slag granulation.

9. *Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*

Occupational Health Surveillance of the workers is carried out on a regular basis and records maintained as per the Factories Act. An Occupational Health Centre with an ambulance and Occupational physician (Company employee) and Para-medicos are available.

10. *The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company shall undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.*

It was assured that they will comply with recommendations of EIA/EMP. There are three villages around the units. They have informed that they have done the need assessment of the area and working towards the overall development of the villages in various thrust areas like Health, Education, livelihood creation & creation of social infrastructure. There is continuous engagement with all the concerned stakeholders to understand the concerns and finding solutions through consultation process.

11. *The project authorities shall earmark adequate capital cost and recurring cost/annum for environment pollution control measures and utilize judiciously to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Bangalore. The funds so provided shall not be diverted for any other purpose*

The project authorities have informed that their Health, Safety and environment department looks after Environmental Management measures of this plant and adequate finance is earmarked in their budget for implementation of environment protection measures.

12. *The Regional Office of this Ministry at Bangalore/CPCB/GPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.*

The project authorities are submitting their six monthly compliance report to the regional office Ministry and the report & data uploaded on to company website: - http://sesagoaironore.com/sustainability/hse/environment-reports/

*. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the GPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.*

The project authorities have advertised about the grant of Environmental Clearance was published in 2 local newspapers as per the condition of EC. English Daily "Navhind Times" dated 12/06/2009 & Marathi Daily "Tarun Bharat" dated 12/06/2009.

14. *Project authorities shall inform the Regional Office as well as the Ministry. the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work*

It was informed that they have obtained the first Consent to Operate for their Coke Plant 08/9/2011; WHRPP 22/12/2011; Blast furnace08/06/2012 and Sinter Plant 09/11/2012

## Additional Recommendations during the Environmental Clearance amendment on 25/4/12,

1. *The NAAQS issued by the Ministry vide GSR No 826 (E) dated 16th November 2009 shall be followed.*

12 parameters as mentioned in NAAQS are monitored at AAQM stations and reports are submitted to GSPCB on Monthly basis.

2. *The Project Proponent shall also submit 6 monthly reports on the status of the compliance of stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to respective RO of MOEF, respective ZO of CPCB & SPCB. RO of MOEF at Bangalore/CPCB/GSPCB shall monitor the conditions.*

Six monthly compliance reports have been submitted to RO of MOEF at Bangalore with cc to CPCB & GSPCB. Also monitored parameters are submitted to the authorities as mentioned in above clauses.

3. *Environmental Statement for each financial year ending 31st March in Form V as is mandated to be submitted by project proponent to GSPCB as prescribed under EPR 1986 shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to respective ROs of MOEF by e-mail.*

The Environmental Statements for all units, viz, Coke Plant, Power Plant, Blast furnace and Sinter Plant for year 2019-20 was submitted in September 2020. The environmental statements need to be uploaded on the company website.

4. *The Company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter-alia address (i) SOP to bring into focus any Infringent /deviation/violation of EC conditions (ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance to EC conditions (iii) System of reporting of noncompliance/violation environmental norms to Board of Directors of the company or/and stakeholders or shareholders.*

Corporate Environment Responsibility Policy Action Plan was submitted to MOEF, CPCB and GSPCB on 20/11/12 along with 7th Six Monthly EC Compliance. Environmental issues are discussed periodically with management.

## Additional Conditions as per Amendment to Environmental clearance via letter No:- F. No. J-11011/946/2007-IA.II(I) dated 07/01/2020

1. **Additional filter beds, arrester wall shall be provided along the Storm Water Drainage for settlement of Suspended Particles and to prevent siltation. The runoff water shall be diverted in settling ponds to prevent any siltation of river/nallah/fields.**

   It appears that the storm water is discharged directly from the premises without adequate settling to the adjoining areas including the water bodies. The GSPCB was in receipt of a recent complaint from the residents of Dhakul Maina wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the company and the storm water without any settling had flown to the village temple lake. GSPCB is in the process of seeking clarification from the unit and further necessary action may be initiated based on the submissions made by the unit.

2. **All the transportation roads within the project premises shall be fully asphalted/ concreted in a phased manner to ensure the reduction of fugitive emissions and to get a clear runoff during monsoon.**

   Most of the internal roads are black top however balance internal road of around 6.38 km will be black topped or concreted in a phased manner by 2023. Also, it will be pertinent to note that budget is allocated for the same annually

3. **Regular monitoring of ground water quality shall be carried out in one open well each in three villages i.e., Amona, Navelim and Maina villages in the post and pre-monsoon seasons and the results shall be submitted to GSPCB under intimation to RO, MOEF & CC Bangalore.**

   Ground water quality monitoring was done in the surrounding villages i.e. Amona, Navelim and Maina and the reports of the same are submitted in the six monthly reports. Copy of the reports is attached herewith at **Annexure "C"**

4. **One additional Continuous Ambient Air Quality Monitoring Station (CAAQMS), in consultation with GSPCB shall be established within the project premise towards the adjoining village and monitoring reports shall be submitted to Goa State Pollution Control Board (GSPCB) and CPCB.**

   The unit is presently operating two CAAQMS within the premises and the data so generated is made available to the CPCB and GSPCB servers. Additional CAAQMS machine procured and available at site. The installation is pending due to covid-19 pandemic

5. **Additional sprinkling arrangement in the raw material stacking area shall be done to control fugitive dust within the project premise.**

   Rain guns are provided in the stacking area for suppressing dust and water tanker sprinkling is done in stacking yard. Also fog cannons are installed for dust suppression.

6. **Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process.**

   Bag Filters are provided to control the secondary emission with the hoods at the emission sources. The Board had carried out dust fall measurements in the surrounding villages of the unit namely at two locations in Amona village and one location each in Navelim village and Betki village from 28/04/2020 to 28/05/2020. As per the reports, shiny particles have been observed on the dust fall samplers located at Amona and Navelim during the monitoring days.

7. **The NOx and CO levels should be monitored at workplace at regular intervals (minimum once a week and controlled).**

Company is monitoring NOx levels at 6 Locations and CO at multiple locations and monitoring is done weekly. Reports are submitted to Goa State Pollution Control Board. Copy of the Workplace monitoring reports is attached herewith at **Annexure "E"**

8. **Monthly monitoring of BaP, Pb,HC, VoCs shall be conducted and report shall be submitted to GSPCB and CPCB.**

Coke ovens are non-recovery type coke oven plants and carrying out the monthly monitoring of BaP, Pb, HC, VoCs through AAQMS and Reports of the same are submitted.

9. **Performance evaluation of all air pollution control devices should be carried out through competent agencies as per the predetermined maintenance protocol of each equipment and report submitted to GSPCB and CPCB.**

Performance evaluation of Air Pollution control device like Baghouses, ESP`s and others have been carried out by MOEF&CC accredited Lab in the month of November 2020 and the comprehensive report has been sent to GSPCB and CPCB. Performance evaluation carried out by the unit is attached herewith at **Annexure "D"**

10. **The tree density in the existing greenbelt should be increased by planting local species within the project boundary areas adjoining villages as per CPCB guideline.**

33% of dedicated green belt area has been marked within the premises. Every year plantation is taken up in the monsoon season to increase the density. As per the records maintained by the unit, the plantation is carried out yearly is 2018 – 3000 plantation, 2019 – 1000 plantation and 2020 – 1000 plantation.

11. **All above condition shall also be incorporated in the Six Monthly report submitted to Regional Office, Bangalore, MoEF&CC.**

The compliance to the additional conditions is included in the six-monthly report and the same is submitted to the Regional Office Bangalore of MoEFCC regularly.

## PRESENT PENDING PETITIONS AGAINST THE COMPANY:

1. **Writ Petition no. 881/2017** pending before the Hon'ble High Court of Bombay at Goa - The matter pertains to the effect of the operation of the unit, M/s Vefanta Limited located in the villages of Amona and Nevelim on the ambient air quality of the surrounding villages. As per the directions of the Hon'ble High Court the Board undertakes the monitoring of the ambient air quality in the surrounding villages.

   As per the orders of the Hon'ble High Court, the efficiency monitoring of the applicable stacks was carried out by the Board in May 2020, October 2020 and November 2020.

   Ambient Air Quality Monitoring carried out by the Board in February and March 2020, for the parameters of PM2.5, PM10, SO2 and NO2 at four locations in Amona Village and one location each in Navelim Village in Betki village. At Betal Temple, Navelim, exceedence was observed in PM10 parameter on four occasions for two consecutive days of monitoring while at Betki location, PM10 had exceeded two times on two consecutive days. At the other locations no exceedence was observed on consecutive days of monitoring.

   Workplace monitoring is proposed to be carried out by the Board through NEERI, Nagpur.

   Dust fall measurement was carried out by the Board in the months of April to May 2020 during which shiny particles were observed on the monitoring equipment at monitoring station located at Amona and Navelim.

   The issue of dust fall of graphite particles in neighbouring areas has to be effectively addressed by the Project Proponant.

2. **Writ Petition WP/03/2021** - pending before the Hon'ble High Court of Bombay at Goa The matter pertains to the alleged illegal modification and enhancement in the capacity of the Blast Furnace #3 located in the premises of the Sinter plant at Navelim. The Board had scheduled an audit of the unit for the verification of the allegations made by the petitioner, however the same could not be carried out in view of the present covid19 restrictions. The GSPCB is in the process of verification of the allegations made.

Report Prepared by: Amit Shanbag (AEE) Amit

**ANNEXURE 7** [Relevant extract]

**Ministry of Environment, Forest and Climate Change**
**Impact Assessment Division**
**(Industry-1 Sector)**

**Date of zero draft MoM sent to Chairman: 18/08/2021**
**Approval by Chairman: 25/08/2021**
**Uploading on PARIVESH: 25/08/2021**

**Summary record of the Forty Second (42nd) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 12-13th August, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.**

The forty second meeting of the Expert Appraisal Committee (EAC) for Industry-1 Sector constituted as per the provisions of the EIA Notification, 2006 for Environment Appraisal of Industry 1 Sector Projects was held on **12-13th August, 2021** in the Ministry of Environment, Forest and Climate Change (MoEF&CC) through **video conferencing** in view of the ongoing Corona Virus Disease (Covid-19) issue. The list of EAC attendees is as follows:

| S. No. | Name | Position | 12/08/2021 | 13/08/2021 |
|---|---|---|---|---|
| 1. | Dr. Chhavi Nath Pandey | Chairman | Present | Present |
| 2. | Dr. M.K. Gupta,<br>Director, CPPRI. | Member | Present | Present |
| 3. | Dr. Siddharth Singh, | Member | Present | Present |
| 4. | Dr. Jagdish Kishwan | Member | Present | Present |
| 5. | Dr. Tejaswini Ananth Kumar | Member | Present | Present |
| 6. | Dr. G.V. Subramanyam | Member | Present | Present |
| 7. | Shri. Ashok Upadhyaya | Member | Present | Present |
| 8. | Shri. Rajendra Prasad Sharma | Member | Present | Present |
| 9. | *Dr. Sanjay Deshmukh* | *Member* | *Absent* | *Absent* |
| 10. | Prof. S.K. Singh | Member | Present | Present |
| 11. | *Dr. R. Gopichandran* | *Member* | *Absent* | *Absent* |
| 12. | *Shri Jagannadha Rao Avasarala* | *Member* | *Absent* | Present |
| 13. | Shri. J.S. Kamyotra | Member | Present | Present |
| 14. | Shri. Sundar Ramanathan | Member Secretary | Present | Present |
| 15. | Dr. Vipin Gupta | Scientist ‘B’ | Present | Present |

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 41st meeting held during 29-30th July, 2021 were confirmed by the EAC as already uploaded on PARIVESH.

True Copy

## 12th August, 2021

42.1 Up-Gradation of Blast Furnaces (BF) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity by **M/s. Vedanta Limited** (Formerly M/s. Sesa Goa Limited) located at Villages Amona and Navelim, Taluka Bicholim, **District North Goa, Goa** [Online Proposal No. IA/GA/IND/215662/2018, File No. J-11011/946/2007.IA II (I)] –**Environment Clearance – regarding**

42.1.1 M/s. Vedanta Limited has made an online application vide proposal no. IA/GA/IND/215662/2018 dated 29/07/2021 along with copy of EIA/EMP report and Form – 2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

42.1.2 The details of the ToR are furnished as below:

| Date of application | Consideration | Details | Date of accord |
|---|---|---|---|
| 20/12/2018 | 3rd Meeting of the REAC (Industry 1) held during 9-11th January, 2019. | IA-J-11011/946/2007-IA.II (I) | 06/03/2019 |

42.1.3 The project of M/s. Vedanta Limited (Formerly Sesa Goa Limited) located at Villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa is for Up-Gradation of Blast Furnaces (BF) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity.

42.1.4 Environmental Site Settings:

| S No | Particulars | Details | Remarks |
|---|---|---|---|
| i. | Total land | 161 ha | Land use: Industrial land |
| ii. | Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 | The land is already in possession of Vedanta Ltd | -- |
| iii. | Existence of habitation & Involvement of R&R, if any. | Not applicable | -- |
| iv. | Latitude and Longitude of the project site | **Latitude** / **Longitude**<br>A: 15$^0$31’44.35”N / 73$^0$58’ 58.76”E<br>B: 15$^0$31’21.14”N / 73$^0$59’ 7.70”E<br>C: 15$^0$30’25.08”N / 74$^0$ 0’ 26.74”E | |

| S No | Particulars | Details | | | Remarks |
|---|---|---|---|---|---|
| | | D | $15^{0}$31’5.72” N | $74^{0}$ 0’27.21”E | |
| | | E | $15^{0}$31’ 37.16”N | $73^{0}$59’ 55.24” E | |
| v. | Elevation of the project site | About 15-50 m above MSL | | | |
| vi | Involvement of Forest land if any. | No forest land involved in proposed project | | | -- |
| vii. | Water body exists within the project site as well as study area | • Mandovi river (0.4 km, W)<br>• Kudne river (1.0 km, N)<br>• Valvot river (3.5 km, N)<br>• KumbharjuaNadi (4.2 km, WSW)<br>• Karmali lake (6.0 km, SW)<br>• Arabian sea (15 km, WSW) | | | -- |
| viii. | Existence of ESZ/ESA/ national park/ wildlife sanctuary/ biosphere reserve/tiger reserve/ elephant reserve etc. if any within the study area | ESZ for all the WLS in Goa are notified and maximum distance is 1 km from the boundary of WLS. Our unit is outside the notified ESZ.<br>The wildlife sanctuaries in study area are listed below:<br>• Mhadei WLS (9.8 km, NE)<br>• Bondla WLS (10.5 km, SE)<br>• Dr.Salim Ali Bird Sanctuary (12.4 km, W) | | | -- |

42.1.5 The existing project was accorded environmental clearance dated 03.06.2009 for Mini Blast Furnace (0.90 MTPA), Sinter Plant (2 MTPA), Coke Plant (0.6 MTPA) and Waste Heat Recovery Power Plant (60 MW). Amendment in EC for Compliance to NGT Order was obtained vides Letter No. F. No J-11011/946/2007-IA.II(I) dated 07.01.2020. BF-1 & 2 and its ancillary units are commissioned prior to EIA Notification 1994. Necessary consents are taken from GSPCB from time to time. Consents to Operate (CTO) for the existing unit are as follow:

| S No | CTO Details | Issuing Authority | Letter No | Validity |
|---|---|---|---|---|
| 1 | Partially modified in Renewal of CTO and authorization for **Pig Iron Plant (2,92,000 TPA) and Installation of Pulverised Coal Injector Plant (01 No.s) Plant at Amona village, Bicholim, Goa** | GSPCB | 5/5208/15-PCB/CI-5464/FLM/17465/CI-5585<br>dated: 17.05.2019 | 01.10.2023 |
| 2 | Renewal of CTO -**Sinter (1 MTPA) & Mini blast furnace (0.54 MTPA) at Navelim village, Bicholimtaluka, Goa** | GSPCB | 12/2020-PCB/557275/R0004287<br>dated: 24.08.2020 | 14.02.2025 |

| S No | CTO Details | Issuing Authority | Letter No | Validity |
|---|---|---|---|---|
| 3 | Renewal of CTO and authorization - **Manufacture of Metallurgical coke (3,22,000 TPA), operation of loading and unloading grabs, operation of stamp charging plant, operation of coke drying and grinding plant, Power generation by WHRB (33 MW)** | GSPCB | No.5/416/95-PCB/CI-5196<br>dated 27.12.2018 | 31.12.2023 |
| 4 | Renewal of CTO and authorization- **Generation of power 35 MW and Metallurgical Coke 3,00,000 Tons/annum** | GSPCB | No.12/2020-PCB/531074/R0004147<br>dated 06.07.2020 | 31.12.2024 |

42.1.6 Implementation status of the existing EC:

| S No | Facilities | Units | As per J-11011/946/ 2007-IA.II.(I) dated 03.06.2009 & amendment dated 05.09.2016 | Implementation Status as on 06.08.2021 | Production as per CTO |
|---|---|---|---|---|---|
| 1 | Blast furnace-3 | TPA | 9,00,000 | 5,40,000 | 540000 |
| 2 | Met coke production | TPA | 600000 | 300000 | 300000 |
| 3 | Waste heat recovery power plant | MW | 60 | 35 | 35 |
| 4 | Sinter plant | TPA | 20,00,000 | 10,00,000 | 1000000 |

42.1.7 The unit configuration and capacity of existing and proposed project is given as below:

| S.No. | Name | Existing Units | | Proposed Units | | Total (Existing +Proposed) | |
|---|---|---|---|---|---|---|---|
| | | **Configuration** | **Production** | **Configuration** | **Production** | **Configuration** | **Production** |
| 1 | Blast furnaces 1 & 2 | 173 m$^3$ x 2 Nos | 2,92,000 TPA | No Change | 58,000 TPA | 173 m$^3$ x 2 Nos | 3,50,000 TPA |
| 2 | Blast furnace-3 | 450 m$^3$ | 5,40,000 TPA | No Change | 1,10,000 TPA with technology up gradation | 450 m$^3$ | 6,50,000 TPA |
| 3 | Met coke production | Battery 1: 84 Ovens(non-recovery)<br>Battery 2: 72 Ovens (Non-recovery) | Battery 1: 3,22,000 TPA(prior to EC Notification so CTO capacity | Battery 1: Additional 4 Ovens (non-recovery type)<br>Battery 2 : No Change | 0<br>(4 ovens will be added to achieve the existing production) | Battery 1: 88 Ovens (non-recovery type)<br>Battery 2 : 72 Ovens(Non-recovery type) | 6,22,000 TPA |

| **S.No.** | **Name** | **Existing Units** | | **Proposed Units** | | **Total (Existing +Proposed)** | |
|---|---|---|---|---|---|---|---|
| | | **Configuration** | **Production** | **Configuration** | **Production** | **Configuration** | **Production** |
| | | | mentioned)<br>Battery 2: 3,00,000 TPA(Phase 1 of 6,00,000 TPA) | | | | |
| 4 | Fe-Si plant | Nil | Nil | 7.5 MVA | 5,000 TPA | 7.5 MVA | 5,000 TPA |
| 5 | Proposed ductile iron pipe plant from blast furnace - 3 | Nil | Nil | 3,00,000 TPA | 3,00,000 TPA | 3,00,000 TPA | 3,00,000 TPA |
| 6 | Waste heat recovery power plant | Power plant 1: 33 MW WHRPP(prior to EC Notification so CTO capacity mentioned)<br>Power plant 2: 35 MW WHRPP | 595 MU | Nil | Nil | 1 x 33 MW & 1 x 35 MW | 595 MU |
| 7 | Sinter plant | 75 $m^2$ | 10,00,000 TPA | Nil | Nil | 75 $m^2$ | 10,00,000 TPA |
| 8 | Oxygen & nitrogen plant | 100 TPD Oxygen & 50 TPD Nitrogen | 100 TPD Oxygen & 50 TPD Nitrogen | 150 TPD Oxygen | 150 TPD Oxygen | 250 TPD Oxygen & 50 TPD Nitrogen | 250 TPD Oxygen & 50 TPD Nitrogen |

42.1.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

**Raw Materials Source -Pig Iron, Coke & Sinter**

| **S No** | **Materials** | **Existing (Tons)** | **Additional Proposed (Tons)** | **Final (Tons)** | **Source** | **Mode of Transportation** | **Distance** |
|---|---|---|---|---|---|---|---|
| 1 | Iron ore fines for sinter | 10,01,777 | 1,79,652 | 11,81,429 | From mines located in Goa and adjoining states | Road ways/ Railways/ Waterways | 500 km |
| 2 | Iron ore lumps | 5,92,216 | 1,43,580 | 7,35,796 | From mines located in Goa and adjoining states | Road ways/ Railways/ Waterways | 500 km |
| 3 | Coke | 5,05,548 | 69,720 | 5,75,268 | In-house and Purchased | Roadways | 2-30 km |
| 4 | PCI | 86,260 | 39,240 | 1,25,500 | Imported | By water ways | Imports |
| 5 | Limestone | 15,8060 | 29,342 | 1,87,402 | Domestic (Karnataka) as well as imported | Road ways/Railways/ Waterways | 500 km and Imports |

| **S No** | **Materials** | **Existing (Tons)** | **Additional Proposed (Tons)** | **Final (Tons)** | **Source** | **Mode of Transportation** | **Distance** |
|---|---|---|---|---|---|---|---|
| 6 | Dolomite | 1,39,363 | 25,989 | 1,65,352 | Domestic (Karnataka) As well as imported | Road ways/Railways/ Waterways | 500 km and Imports |
| 7 | Quartzite | 42,898 | 8,633 | 51,531 | Domestic (Maharashtra and Karnataka) | Roadways/Railways | 500 km |
| 8 | Quick Lime | 46,743 | 8,383 | 55,126 | Karnataka & Rajasthan | Roadways | 500-1800 km |
| 9 | Coke breeze | 69,051 | 12,383 | 81,434 | In-house | Roadways | 2-30 km |
| 10 | Coal for coke production | 8,30,000 | - | 8,30,000 | Import | Waterways | Import |

## Raw Materials Source -DI Pipe & Fe & Si

| **S No** | **Material** | **Proposed (kg/ton)** | **Final (TPA)** | **Mode of Transport** | **Source** | **Distance** |
|---|---|---|---|---|---|---|
| **Proposed Raw Material for DI Pipe** | | | | | | |
| 1 | Hot metal | 1,083.0 | 32,4900 | Byroad/ rail track | Existing Blast furnace | 1 km |
| 2 | MS scrap | 100-130 | 36,000 | Byroad | In-house & Steel Mills | 500 km |
| 3 | Ferro-silicon | 10 | 3,000 | Byroad | In house and Maharashtra | 600 km |
| 4 | Zn wire | 1.73 | 519 | Byroad | HZL and other Sources in India | 1600 km |
| 5 | Bitumen coal tar | 2.15 | 645 | Byroad | IOCL and other Indian sources | 500 km |
| 6 | Magnesium | 1.3-1.4 | 405 | Byroad | From India | 1500 km |
| 7 | Sand for core making | 55 | 16,500 | Byroad | From India | 1500 km |
| 8 | Graphite powder | 0.67 | 201 | Byroad | Graphite India limited & other Sources in India | 1000 km |
| 9 | Binder | 1.3-1.4 | 405 | Byroad | From India and Imported | Import |
| 10 | Catalyst | 0.27 | 81 | Byroad | From India/Imported | Import |
| 11 | Cement | 30 | 9,000 | Byroad | Domestic, ACC, Birla | 100-1000 km |
| 12 | Calcium carbide | 14-15 | 4,500 | Byroad | Jalandhar/ Import | 2000km |
| 13 | Sand for lining | 130-165 | 45,000 | Byroad | Domestic and Other sources in India | 500km |
| | **Proposed Raw Material for Fe-Si** | | | | | |
| 1 | Quartzite | 1.782 | 8,910 | Roadways/ Railways | Domestic (Maharashtra and Karnataka) | 500Km |
| 2 | Charcoal | 0.6435 | 3,217.5 | Roadways/ Railways | Orissa/ Jharkand | 1600km |
| 3 | Coke | 0.6435 | 3,217.5 | Roads | In-house | 1-30Km |
| 4 | Iron scrap, mill scale | 0.198 | 990 | Roads | In-house & Steel Mills | 500KM |

| S No | Material | Proposed (kg/ton) | Final (TPA) | Mode of Transport | Source | Distance |
|---|---|---|---|---|---|---|
| 5 | Electrode paste | 0.0693 | 346.5 | Roads | From India | 500km |

42.1.9 Total additional water requirement for the proposed expansion project will be 2,400 KLD with total requirement of 12,744 KLD. Domestic & DM plant washroom water requirement is 360 cum/day will be met from PWD.
Industrial water requirement source:
a) Rain water harvested from exhausted mine pit at Sanquelim
b) Rainwater harvesting ponds within the plant boundary
c) Bandhara on Valvonti River (Permission obtained for 10,000 KLD qty)
d) Mandovi River (Permission obtained for 4320 KLD).

Renewal of NOC for withdrawal from Valvonti River for 10,000 cum /day is obtained from Water Resource Department vides Letter No: WRD/WDI/ASW/F.15/2021-22/157 dated 05.08.2021 and is valid up to 19.04.2022.
NOC for water drawl from Mandovi River of 9,600 cum/day blanket permission is obtained from Water Resource Department vide Letter No: 15/WRD/WDI/ADM/13-14/58 dated 24.04.2014.

42.1.10 The total power requirement after proposed expansion is 55.5 MW. Existing power requirement is 27 MW. This requirement will be sourced from 65 MW captive power plant and external grid (as emergency backup).

42.1.11 Baseline Environmental Studies:

| Period | 1st March 2019 to 31st May 2019 |
|---|---|
| AAQ parameters at 11 locations | $PM_{10}$ = 44.3-86.3µg/m$^3$<br>$PM_{2.5}$ = 25.9-42.9µg/m$^3$<br>$SO_2$ = 10.1-19.7 µg/m$^3$<br>$NO_x$ = 11.8-21.9 µg/m$^3$<br>CO =194-356 µg/m$^3$ |
| AAQ modelling | Scenario-I: Proposed DI Pipe Plant of 3,00,000 TPA + Proposed Fe-Si Plant of 5000 TPA<br>$PM_{10}$ = 5.60 µg/m$^3$<br>$PM_{2.5}$ = 1.84 µg/m$^3$<br>$SO_2$ = 1.38 µg/m$^3$<br>$NO_x$ = 1.04 µg/m$^3$<br>Scenario-II: Proposed DI Pipe Plant of 3,00,000 TPA + Proposed Fe-Si Plant of 5000 TPA + Existing BF-1 & 2 +Sinter Plant+ Blast Furnace (BF-3)+ Waste Heat Recovery Based Power Plant<br>$PM_{10}$ = 22.0 µg/m$^3$<br>$PM_{2.5}$ = 6.62 µg/m$^3$<br>$SO_2$ = 11.0 µg/m$^3$<br>NOx = 7.90 µg/m$^3$<br>Scenario-III: Other Industries Within 10 km of Study Area + Scenario-II |

| | |
|---|---|
| | $PM_{10} = 79.2\ \mu g/m^3$<br>$PM_{2.5} = 37.9\ \mu g/m^3$<br>$SO_2 = 18.7\ \mu g/m^3$<br>$NO_x = 20.9\ \mu g/m^3$ |
| Ground water quality at 9 locations | pH: 6.95-7.29<br>Total Hardness: 262-1621.6mg/l,<br>Chlorides: 225-1192mg/l,<br>Fluoride: 0.3-1.1 mg/l.<br>Heavy metals are within the limits. |
| Surface water quality at 8 locations | pH: 6.81-7.35 ;<br>DO: 5.4-6.1mg/l and<br>BOD: <3.0mg/l.<br>COD : <5-70mg/l |
| Noise levels | 43.1 to 51.1 dB (A) for the day time and 40.0 dB (A) to 47.5 dB (A) for the night time. |
| Traffic assessment study findings | Additional truck traffic due to existing & proposed project: 60 Trucks per day<br>**Incremental Concentrations:**<br>$PM_{10} = 0.006\ \mu g/m^3$<br>$PM_{2.5} = 0.004 \mu g/m^3$<br>$NO_x = 0.7 \mu g/m^3$<br>$CO = 0.67 \mu g/m^3$<br>$HC = 0.19\ \mu g/m^3$ |
| Flora and fauna | There are 7 Schedule-I species found in the study area which are Peacock, Crocodile, Shikra, Common Indian Monitor Lizard, Gaur, Indian Python and Leopard.<br>Authentication of flora and fauna is approved by Deputy Conservator of Forests, North Goa vide Letter No. 5/FCA/GEN/F& F/DCFN/TECH/21-22/101/253 dated 04.05.2021. Approval of Wild Life Conservation plan is obtained by Deputy Conservator of Forests Wild Life & Eco-Tourism (North) Division, Government of Goa vide Letter No: 1-576 (PART) WL & ET (N)/2021-2022/554 dated 28.05.2021.<br>Office of the Dy. Conservator of Forests has authenticated the distance of Wild Life Sanctuaries from boundary of Vedanta Plant vide Letter No: DCF(WP)/Tech/Digi/Vol-I/75/2020-21/192 dated 04.06.2021 |

42.1.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S No | Solid Waste Quantity | Existing (TPA) | Proposed (TPA) (Tentative) | Final after Expansion (TPA) | Mode of Disposal |
|---|---|---|---|---|---|
| **Non-Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)** | | | | | |
| 1 | Slag | 3,41,400 | 58,600 | 4,00,000 | Sold to cement industry |
| 2 | Flue dust | 20,000 | 5,000 | 25,000 | Recycled back to the |

| S No | Solid Waste Quantity | Existing (TPA) | Proposed (TPA) (Tentative) | Final after Expansion (TPA) | Mode of Disposal |
|---|---|---|---|---|---|
| | | | | | process |
| 3 | Coke fines from DES | 1000 | Nil | 1000 | Charging in Blast Furnace |
| 4 | Coke Breeze | 53,000 | Nil | 53,000 | Captive consumption |
| **Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)** | | | | | |
| 1 | Oil soaked cotton waste | 56 | 0 | 56 | Incinerated in coke oven plant |
| 2 | Discarded Containers/ Barrels /Liners contaminated with Hazardous Wastes/Chemicals | 22 | 8 | 30 | Thinner to be used for cleaning paint tins & same thinner to used for dilution of paint & decontaminated tins given for recycling |
| 3 | Spent ion exchange resin | 0.4 | 0 | 0.4 | To authorized incineration facility/ cement plant for co processing |
| 4 | Used oil | 36.5 | 23.5 | 60 | To recyclers registered with CPCB and having valid authorization of SPCB. |
| 5 | Oil Filters | 3 | 3 | 6 | To recyclers registered with CPCB and having valid authorization of SPCB |
| **Proposed Fe- Si Plant (Non-Hazardous Waste)** | | | | | |
| 1 | Slag | - | 590 | 590 | Partly reused in sinter plant and partly in road making |
| 2 | Dust | - | 7,300 | 7,300 | Reused into the sinter plant |
| **Proposed DI Pipe Plant** | | | | | |
| **Non-Hazardous Waste** | | | | | |
| 1 | Iron scrap | - | 25,000 | 25,000 | To be used in foundry units for re-melting and re-use |
| 2 | Slag | - | 3000 | 3000 | Used for road laying |
| 3 | Waste core sand | - | 10,000 | 10,000 | Construction fill/road bases/ land fill/ reused in cast house of B.F |
| 4 | Magnesium oxide waste | - | 20 | 20 | Re-used in the sinter plant |
| **Hazardous Waste in Proposed DI Pipe Plant** | | | | | |
| 1 | Zinc dust | - | 525 | 525 | Authorization from Pollution Control Board for selling to authorized agents |
| 2 | Used oil | - | 10 | 10 | Authorization from GSPCB for selling to authorized agents |

## Other Wastes:

| S No | Solid Waste Quantity | Existing | Proposed (Tentative) | Final after Expansion | Mode of Disposal |
|---|---|---|---|---|---|
| 1 | STP Sludge | 150 kg | 50 kg | 200 kg | Used in greenbelt area |
| 2 | E-Waste | 8 MT | 2 MT | 10 MT | Sent to authorized |

| S No | Solid Waste Quantity | Existing | Proposed (Tentative) | Final after Expansion | Mode of Disposal |
|---|---|---|---|---|---|
| | | | | | recyclers |
| 3 | Batteries | 6 MT | 2 MT | 8 MT | Sent to authorized vendors |
| 4 | Canteen waste/ Domestic waste | 72,000 Kg | 27,000 Kg | 99,000 kg | Disposed in composting pit and used as manure in green belt area |
| 5 | Refractory Bricks | 500 MT | 200 MT | 700 MT | Used as road material or filling |
| 6 | Metal Scrap | 700 MT | 300 MT | 1000 MT | Disposed to dealer as per scrap metal policy |

42.1.13 Public Consultation:

| | |
|---|---|
| Details of Advertisement given | 11.02.2021 |
| Date of Public Consultation | 14.03.2021 & 21.03.2021 |
| Venue | 1. Government Village Playground Navelim, Near Vividha Higher Secondary School, Navelim, Sanquelim, Goa<br>2. Amona Village, Government High School Ground, Amona Ground, Goa |
| Presiding Officer | Additional Collector |
| Major Issues Raised | Transportation and education facilities.<br>Air and Water Pollution,<br>Health problems and health assessment<br>Employment& Skill Development to Local People |

**Action plan as per MoEF&CC O.M. dated 30/09/2020:**

| S No | Issues/Concerns Raised by public / Stakeholders | Physical Activity & Action Plan | EMP Budget (Rs. In Crores) | Time Schedule For Implementation |
|---|---|---|---|---|
| 1 | Air Pollution | • In order to reduce fugitive dust during transportation proper roads and pathways within the plant premises will be made. Out of 13km of existing internal roads; 6.62 km of roads are already black topped, balance internal roads of around 6.38 km will be black topped or concreted in a phased manner by 2023. | 18Cr | FY 2023 |
| | | • Proper dust suppression systems at site like water sprinkling, road sweeping, fog cannon and rain guns are available and maintained efficiently. Also R & D for dust suppression at the plant | 1Cr | Annually recurring activity |
| | | • For effective dust extraction at the source, new Bag house for effective dust extraction from the coke ovens at Met Coke plant will be installed | 2Cr | By FY 2022 |

| S No | Issues/Concerns Raised by public / Stakeholders | Physical Activity & Action Plan | EMP Budget (Rs. In Crores) | Time Schedule For Implementation |
|---|---|---|---|---|
| | | • Windshield of 220m will be installed at the boundary of the plant to avoid any dust escaping the plant boundaries<br>• Identification of native species and plantation within and around the plant premises. Improving and developing the green belt area in and around the plant will further reduce dust pollution. | 0.75Cr<br>0.25Cr | By FY 2022<br>By FY 2023 |
| | | **Sub-Total** | **22 Cr** | - |
| 2 | Water Pollution | • New settling ponds and check dams before monsoon. During monsoon rain water will be channelized into these settling ponds for settling; annual desilting of the settling ponds being taken up | 0.25Cr | By FY 2023 |
| 3 | Health Screening and Assessment | • Health screening and assessment through Mobile Health Unit, medical health center etc<br>• Health camp in the surrounding villages | 0.35 Cr | By FY 2022 |
| 4 | Employment | • Vedanta gives preference to the eligible local people in terms of employment either directly or through business partners, depending on requisite qualifications, skill levels etc<br>• Vedanta Ltd will continue to support local illiterate youth from affected villages through various skill development & educational initiatives as a part of CSR. | - | - |
| 5 | Skill Development to Local People | • Proper training facilities and exposure will be provided to the local youth for their skill development through Sesa Technical School, located at Sanquelim village. | 0.45 Crores | - |
| | | **Total (Rs in Crores)** | **23.05** | |

42.1.14 The capital cost of the proposed expansion project is about Rs. 701 Crores. Vedanta Limited proposes to spend about Rs. 35.0 crores towards environmental protection measures with a recurring cost of about Rs. 5.0 crores. The proposed expansion project will generate employment for 450 manpower including contractual basis. The details of cost for environmental protection measures is as follows:

| S No | Particulars | Proposed Cost (Rs. Crores) | |
|---|---|---|---|
| | | **Capital Cost** | **Recurring Cost per Annum** |
| 1 | DE system with bag filters for the project | 19.0 | 1.5 |
| 2 | Dust suppression system | 1.5 | 0.2 |
| 3 | Rain water harvesting & water | 3.5 | 0.1 |

| **S No** | **Particulars** | **Proposed Cost (Rs. Crores)** | |
|---|---|---|---|
| | | **Capital Cost** | **Recurring Cost per Annum** |
| | treatment system | | |
| 4 | Acoustic enclosures | 2.5 | 0.3 |
| 5 | Environmental monitoring | 7.0 | 1.2 |
| 6 | Wind shield | 1.5 | 0.2 |
| 7 | Greenbelt development | - | 1.5 |
| | **Total** | **35.00** | **5.0** |
| 8 | Amount earmarked to addressed the issues raised during public hearing | **23.05** | |

42.1.15 Greenbelt has been developed in an area of 54 ha (133.43 acres) which is about 33 % of the total project area. Existing green belt density is about 548 trees per ha, further 1952 trees per ha to be planted as per the CPCB guideline.

42.1.16 Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration shall be furnished:

| **S No** | **Case** | **Status** |
|---|---|---|
| 1 | Name of the Court: High Court of Bombay at Goa<br>Case No: 10/2021 | Case Details: - SiddheshGawas and MrVirajNaik, the petitioners have filed a writ petition in the HC praying for issuance of writ of Mandamus against the project proponent and alleging that there has been action undertaken by the project proponent in violation of the Environment Impact Assessment Notification, 2006. Post which Vedanta already filed our (Vedanta) preliminary affidavit in response to the s ame. GSPCB also filed Inspection Report. The court has disposed off the petition on 3.08.2021 by accepting the contents of affidavit of Vedanta Ltd & GSPCB inspection report stating that no enhancement of production capacity has been carried out and the same shall be done only after obtaining necessary clearance.<br>Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project. |

| S No | Case | Status |
|---|---|---|
| 2 | Name of the Court: NGT Pune-Western Bench<br>Case No : 47/2013 | Case Details: -An application has been filed by Village Panchayat of Navelim alleging that the GSPCB has issued separate peace meal consent to operate to each of Vedanta's expansion project at Navelim, even though the Environment Clearance and Consent to Establish is for all four plants together, thereby violating the EC conditions. This matter has been kept in abeyance since the identical issue was pending before the SC in another petition which was referred by the SC to NGT. NGT disposed the same without any adverse order against us (Vedanta) as far as EC is concerned. However, directed MoEF to add any additional EC Condition. Subsequently, MoEF&CC heard both the parties and disposed the matter by imposing additional conditions over and above the existing conditions. It is pertinent to note that the petition stands worked out in terms of the case as referred above.<br>Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project. |
| 3 | Name of the Court: District Court, Mapusa<br>Case No. 24/2015 | Case Details: The Communidade of Amona has filed a case against the project proponent claiming that the lease granted to the project proponent in terms of provisional possession for survey no. 42/1 and 43/1 has already expired in the year 2012 and has thus reverted back to the plaintiff in the year 2012 and to issue perpetual injunction against the project proponents from entering the said property. We (Vedanta) have filed our reply. It is now pending for arguments on temporary injunction.<br>Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project. |
| 4 | Name of the Court: PravirFadte v. State of Goa &Ors<br>Case No. 881/2017 | Case Details: Pravir P Fadte has filed a writ petition in the HC of Goa stating that the Project Proponent is not in compliance with NEERI's recommendations. The allegations were incorrect in nature. We (Vedanta) had already submitted our compliance report to GSPCB which fact was also confirmed before the HC in this matter. There is no adverse order form HC. The case is pending hearing as per board.<br>Orders/Directions of the court, if any and its relevance with the proposed project: No order having any adverse impact on the project. |

42.1.17 Name of the EIA consultant: M/s. Vimta Labs Limited [S. No. 139, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

**Certified compliance report from Regional Office**

42.1.18 The Status of compliance of earlier EC was obtained from Goa State Pollution Control Board vide letter no 10/1/21-PCB/Vol XXII/Tech/5567 dated 02.07.2021 in the name of M/s. Vedanta Limited. The action taken report was submitted to Goa State Pollution Control Board (GSPCB), Goa vide letter no. VAB/ENV/21-22/24 dated 26.07.2021. The details of the observations made by RO in the report dated 02.07.2021 along with its re-assessment / present status as furnished by the PP is given as below:

| S No | Areas of improvement Reported If any | Corrective Action Taken | Present Status | Remarks |
|---|---|---|---|---|
| 1 | Control of secondary fugitive emissions from all the sources | Following actions are been taken:<br>▪ Rain guns and fog cannons are used frequently<br>▪ All raw material fines are covered with silpaulin | We ensure to prevent fugitive emissions | We further undertake to continually improve our environment performance |
| 2 | All the slag be granulated and provided to cement manufacturers | Slag is sold to cement industry | Slag Generation 2020-21: 188291 Tons<br>Slag Disposal 2020-21: 277349 Tons | Slag generation is a continuous process and entire slag is sold to cement industry within and outside our country. |
| 3 | Control of vehicular pollution due to transportation | The following measures are being implemented:<br>▪ Water sprinkling through tankers<br>▪ Road sweeping on transportation roads<br>▪ PUC check at the gate<br>▪ Trucks are covered with tarpaulin during transportation | | We further undertake to continually improve our environment performance |
| 4 | In plant control measures for checking fugitive emissions be adopted | The following measures are being implemented:<br>▪ Bag houses are installed at the Blast Furnace (BF)<br>▪ Closed conveyor are used<br>▪ Raw material fines are covered with silpaulin<br>▪ Rain guns, Mayura curtains and fog cannons.<br>▪ Road sweeping machines<br>▪ Wheel wash system at the exit gate<br>▪ Dust extraction systems for screening plants<br>▪ Dust suppression systems for material handling plants | - | We further undertake to continually improve our environment performance |

| S No | Areas of improvement Reported If any | Corrective Action Taken | Present Status | Remarks |
|---|---|---|---|---|
| | | ▪ Wind shields fitted with sprinkler system along the plant boundary | | |
| 5 | Additional filter beds, arrester wall shall be provided along the Storm Water Drainage for settlement of Suspended Particles and to prevent siltation. The runoff water shall be diverted in settling ponds to prevent any siltation of river/nallah/fields. | We have 11 numbers of settlings at the area and this year we have constructed additional settling pond of 700 m$^3$ capacity. Water from these settling ponds are also used for process purpose. Further, it is to inform that all the storm water is channelized into series of settling ponds, check dams and discharged out in a controlled manner.<br>The discharged water is monitored at regular intervals and the water quality is within the permissible limits. | - | |

**Additional recommendation during the Environmental Clearance amendment on 25/04/2012.**

| S No | Condition detail | Condition no of EC dated 12/04/2012 | Observation of GSPCB |
|---|---|---|---|
| 1 | Environmental Statement for each financial year ending 31st march in Form V as is mandated to be submitted by project proponent to GSPCB as prescribed under EPR 1986 shall also be put on the website of the company along with the status of the compliance of Environmental conditions and shall also be sent to respective ROs of MOEF by e-mail. | 3 | The Environmental Statement for all units viz coke Plant, power Plant, Blast Furnace and sinter plant for year 2019-20 was submitted in September, 2020. **The environmental statement need to be uploaded on the company website.** |

**Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020:**

| S No | Condition detail | Condition no of EC dated 07/01/2020 | Observation of GSPCB |
|---|---|---|---|
| 1 | Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation. The runoff water shall be diverted | 1 | It appears that the storm water is discharged directly from the premises without adequate settling to the adjoining area including the water bodies. The GSPCB was in receipt of a recent complaint from the resident of Dhakal |

**Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020:**

| S No | Condition detail | Condition no of EC dated 07/01/2020 | Observation of GSPCB |
|---|---|---|---|
| | | | Maina wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the company and the storm water without any settling had flow to the village temple lake. GSPCB is in the process seeking clarification from the unit and further necessary action may be taken based on the submission made by the unit. |
| 2 | All the transportation roads within the project premises shall be fully asphalted/ concreted in a phased manner to ensure the reduction of fugitive emissions and to get a clear runoff during monsoon. | 2 | Most of the internal roads are black top. However, balance internal road of around 6.38 km will be black topped or concreted in a phase manner by 2023. Also, it will be pertinent to note that budget is allocated for the same annually. |
| 3 | One additional continuous ambient air quality monitoring station (CAAQMS), in consultation with GSPCB shall be established within the project premises towards the adjoining village and monitoring reports shall be submitted to Goa State Pollution Control Board (GSPCB) and CPCB. | 4 | The unit is presently operating two CAAQMS within the premises and the data so generated is made available to the CPCB and GSPCB servers. Additional CAAQMS machine procured and available at site. The installation is pending due to COVID-19 pandemic. |
| 4 | Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control | 6 | Bag filters are provided to control the secondary emission with the hoods at the emission sources. The board had carried out dust fall measurements in the surrounding villages of the unit namely at two locations in Amona village and one location each in Navelim Village and Betki Village from 28/04/2020 to 28/05/2020. As per the report, shiny |

| **Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020:** | | | |
|---|---|---|---|
| **S No** | **Condition detail** | **Condition no of EC dated 07/01/2020** | **Observation of GSPCB** |
| | device without interfering with the production process. | | particles have been observed on the dust fall sampler located at Amona and Navelim during the monitoring days. |

**Observations of the Committee**

42.1.19 The Committee observed the following:

i. In the instant proposal, the units namely Blast Furnace (2,92,000 $m^3$) and Coke Oven Plant (3,20,000 TPA) are running on the strength of the CTE/CTO from Goa State Pollution Control Board. Besides, PP has obtained EC during 2009 for Blast furnace – 9,00,000 TPA; Sinter Plant – 2,00,0000 TPA; Coke Oven Plant – 6,00,000 TPA and Power Plant 60 MW based on WHRB. However, project proponent has not integrated the said units till date. EIA report needs to be revised by integrating all the units and cumulative impact assessment needs to be carried out.

ii. The existing and proposed configuration of Blast Furnace, Sinter Plant, Coke Oven Plant, Ferro Alloy Plant and Power Plant are neither reflected in the EIA report nor in the presentation made before the EAC.

iii. The company has obtained one EC and being operated in piece meal consents from GSPCB in the name of Pig Iron Division, Sinter Plant Division, Met Coke Division and WHRB Division which is creating confusion while evaluating the implementation status of the EC.

iv. There is a jetty in the vicinity of the project site which is being used for material transportation. The dimensions of the jetty and the material handling capacity of the jetty for the existing and proposed expansion has not been made available. Clearances if any obtained, under the provisions of CRZ, 1991 and its subsequent amendments has also not been informed.

v. There are 18 sites of archeological importance in the study area. In this regard, no approval/clearance from the Archeological Survey of India has been obtained till date although the unit is under operation since 1992. Impact assessment on archaeological sites/ historical monuments due to the existing and proposed expansion of the plant has not been carried out.

vi. According to the certified compliance report of GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.

vii. As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

viii. Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

ix. As per the base line data collected, the BOD in the surface water sample is reported as less than 3 mg/lit whereas COD reported values are 50 mg/l, 60mg/l and 70 mg/lit respectively which seems incorrect and no clarification for the same provided. Location of the water quality sampling stations as well as positioning of air quality samplers at monitoring stations are not in conformity with the CPCB guidelines. Riverine ecology study has not been carried out at all. In view of this, fresh data (one month) needs to be collected. Besides, PP needs to clarify about the monitoring methodology for $O_3$, $NH_3$ and BaP etc., as the monitoring has not been carried out properly.

x. There are 7 schedule I species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

xi. Public Hearing was conducted on 14.3.2021 and 21.3.2021 based on the Order of Hon’ble High Court of Bombay. 817 people attended the PH and most of the attendees opposed the project expansion citing pollution, health, education and unemployment issues etc. PP failed to submit the point wise response to the issues raised in public hearing and action plan with physical target as per MoEF&CC O.M. dated 30/09/2020 has not been submitted.

xii. Incomplete/inaccurate and inconsistent information has been furnished in most of the sections of Form 2.

xiii. EMP cost is indicated as Rs. 35.0 Cr on a CAPEX of Rs.701.0 Cr. This is just 5 % of CAPEX which is grossly inadequate. For a BF- Coke Oven and DIP complex the EMP cost shall be around 15 % of CAPEX.

xiv. Total water requirement is 12794 KLD out of which only 9600 KLD is drawn from Mandovi River and balance is drawn from old abandoned pits of iron ore mines (Harvested rain water). Subsequently, PP has informed that permission for withdrawal of 10000 KLD of water from Balvot river has been obtained. There is no clarity on the source of water for the existing and proposed expansion.

xv. Load bearing capacity (Million Standard Axle) of the existing connecting road vis-à-vis with vehicles plying on the road has not been carried out.

xvi. Energy recovery systems like TRT, sinter cooler waste heat recovery, BF hot stove waste heat recovery, dry gas cleaning of BF gas have not been considered in the proposal.

xvii. List of Hazardous waste does not include bitumen coated sand, Zinc dross, cement slurry generated from DIP plant.

xviii. Method to be adopted for charging of coke fines back into blast furnaces as proposed by PP has not been explained.

xix. The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.

xx. Sensible heat recovery is proposed for Blast furnaces to generate power. This is not possible as BF gas does not have that high temperature. PP has not provided any explanation.

xxi. Size and capacities of individual facilities in Ductile Iron Plant have not been furnished. No details are given about Pollution Control Devices (PCDs) in DIP Plant. PP shall use a 20 T IF in DIP, the Fume Extraction details of IF are not given.

xxii. PP confirms that sizes of Pollution Control Devices (PCDs) is enough to take care of additional pollution load. This seems impossible to meet the stringent PM emission norms of 30 mg/Nm$^3$ with almost 20 % increase in production capacity.

xxiii. It may be noted that out of Rs. 23.05 Cr allocated for addressing issues raised during public hearing Rs.22 Cr are earmarked for the facilities to control pollution within the plant. Only Rs1.05 Cr is left to address public concerns. This need to be revisited as expenditure incurred on abatement and control of environment pollution inside the plant is part of capital expenditure and cannot be considered as expenditure on socio economic development outside the plant. Socio Economic development related EMPs have no time schedule.

xxiv. Mitigation measures suggested for construction and operation are generic and none of these have been quantified. It is like a text book copy.

xxv. Solid waste management plan to ensure 100 % solid waste utilization as per CREP guidelines has not been furnished.

xxvi. Air quality modelling has been carried out for flat terrain without considering the impact of nearby hills and ocean current. While calculating the incremental GLCs, impact of modernization and capacity enhancement of the existing units have not been considered.

**Recommendations of the Committee**

42.1.20 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings as enumerated at paragraph 42.1.19 above. Further, PP is required to undertake necessary corrective action on the said non-compliances and latest compliance report on the same from the concerned Regional Office of MoEF&CC is required. MoEF&CC may issue a Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as mentioned above.

42.2 Proposed 2.4 MTPA (2x1.2 MTPA) Iron Ore Pellet Plant over an area of 36.68 acres (14.84 ha.) by **M/s. Narbheram Power and Steel Private Limited** located at Village- Tanto, Tehsil Barbil, **District Keonjhar, Odisha** [Online Proposal No. IA/OR/IND/222700/2021; File no: IA-J-11011/241/2021-IA-II(I)] **– Prescribing of Terms of Reference– regarding.**

42.2.1 M/s. Narbheram Power and Steel Private Limited has made an online application vide proposal no. IA/OR/IND/222700/2021 dated 01/08/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

42.2.2 The project of M/s. Narbheram Power and Steel Private Limited located at Village- Tanto, Tehsil Barbil, District Keonjhar, Odisha is for proposed 2.4 MTPA (2x1.2 MTPA) Iron Ore Pellet Plant along with Producer gas plant of 5 x 6,500$Nm^3$/hr configuration over an area of 17.013 ha.

42.2.3 Environmental site settings:

| S No | Particulars | Details | Remarks |
|---|---|---|---|
| i. | Total land | Total land: 42.04 Acres (17.013 ha.) comprising of<br>Forest land: 24.00 Acres (9.712 ha.)<br>Non-Forest land: 9.95 Acres (4.027 ha.)<br>Land Records not available: 8.09 Acres (3.274 ha) | Land use will change from existing to Industrial Use |
| ii. | Existence of habitation &involvement of R&R, if any. | There is no existence of habitants identified within the plant boundary. | R&R not applicable. No displacement, only 14 PAFs. |
| iii. | Latitude and Longitude of the project site | Latitude: 22°02'29.01" to 22°02'46.12"<br>Longitude: 85°21'47.76" to 85°22'09.99" | - |
| iv. | Elevation of the project site | 492-514meters AMSL | - |
| v. | Involvement of Forest land if any | Forest Land: 12.986 ha | FC application submitted vide: Proposal No- FP/OR/IND/125237 /2021 for 12.986 ha. (Forest: 9.712 ha; No Land Records: 3.274 ha) |

| S No | Particulars | Details | Remarks |
|---|---|---|---|
| vi. | Water body exists withinthe project site as wellas study area | **Project Area:**<br>No water body exists.<br>**Study Area:**<br>KundraNala- 4.40 km (SE)<br>Karo River- 6.00 km (NNW)<br>SonaNadi- 6.97km (E)<br>Bolani reservoir- 7.35 km (NNE)<br>Jhikra Waterfall- 7.60 km (NW)<br>Baitarani River – 9.95 km (SE) | No river within 1 km radius of the proposed site.<br>Water Requirement for the project will be met from Baitarani River. |
| vii. | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ bio-sphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | Nil. Following forests are present in study area:<br>Siddhamath RF-0.57km/ W<br>Thakurani RF-3.75 km/ NE<br>Lakrhaghat RF-4.3km/ SW<br>Karo RF-6.8km/ NW<br>Uliburu RF-6.8 km/ NNE<br>Baitarani RF-7.72km/ SSE | - |

42.2.4 The unit configuration and capacity of proposed project is given as below:

| S No | Name | Proposed Units | |
|---|---|---|---|
| | | Configuration | Production (TPA) |
| i. | Iron Ore Pellet Plant | 2x 1.2 MTPA | 2.4MTPA (2400000 TPA) |
| ii. | Producer Gas Plant | 5 x 6500Nm$^3$/hr | 32,500Nm$^3$/hr |

42.2.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Raw Material | Quantity Required per Annum (tonnes) | Source | Distance from Site (Kms) | Mode of Transport |
|---|---|---|---|---|---|
| i. | Iron ore fines | 26,92,800 | Roida II Mines and other Iron Ore mines in the Joda / Barbil area | 03-15 | Closed conveyor/ Road |
| ii. | Bentonite | 19,800 | Local traders of Bhuj, Gujarat product | 1900 | Rail |
| iii. | Limestone/ Dolomite | 47,520 | Local Market / Sundargarh, Odisha | 185 | Road |
| iv. | Coke / Coal Fines | 47,520 | Open Market | 280 | Road/ Rail |
| v. | Fuel for Gasifier – Coal | 1,25,400 | Open Market | 280 | Road/ Rail |

42.2.6 The water requirement for the project is estimated as 7,368 m$^3$/day, out of which 4800 m$^3$/day of fresh water requirement will be obtained from the Baitarani River and the remaining requirement of 2,568m$^3$/day will be met from the recycling of the process water. The permission for drawl of surface water is recommended by IPICOL (Industrial Promotion and Investment Corporation of Odisha Limited) to DWR (Department of Water Resources) vide Lr. No CGM/SLNA/NPSL/327/20/1462 dated 11.06.2021.

42.2.7 The power requirement for the project is estimated as 18MW. Power required for the plant operation shall be sourced from the State grid-OPTCL.

42.2.8 The capital cost is Rs. 350 Crores. The capital cost for Environmental protection measures is proposed as Rs. 30 Crores. The employment generation from the proposed project is 258.

42.2.9 Proposed Terms of Reference (**Baseline data collection period: March to May, 2021**):

| **Attributes** | | **Sampling** | | **Remarks** |
|---|---|---|---|---|
| | | **No. of stations** | **Frequency** | |
| A. Air | | | | |
| a. Meteorological parameters | Temperature, Humidity, Rainfall, Wind Speed, Wind Direction, Cloud Cover | 1 | Continuous recording of hourly micro-meteorological | |
| b. AAQ parameters | Particulate Matter as $PM_{10}$, Particulate Matter as $PM_{2.5}$, Sulphur dioxide as $SO_2$, Oxide of Nitrogen as NOx, Carbon Monoxide as CO, | 8 | Twice in a Week on 24 hrs basis for three Months | |
| B. Noise | Leq. Day Time<br>Leq. Night Time | 8 | Continuous monitoring for 24 hours at each location, Once during the study period | |
| C. Water | | | | |
| Surface water quality parameters | Color, pH, Dissolved Oxygen (min), Turbidity, Chloride (max), Total Dissolved Solids, Oil & Grease (max), BOD (3) days at 27°C (max), Chemical Oxygen Demand (COD), Arsenic as As, Lead as Pb, Cadmium as Cd (max), Hexa Chromium as $Cr^{+6}$, Copper as Cu (max), Zinc as Zn(max), Selenium as Se (max), Cyanide as CN (max), Fluoride as F (max), | 8 | Once during the study period | |

| **Attributes** | | **Sampling** | | **Remarks** |
|---|---|---|---|---|
| | | **No. of stations** | **Frequency** | |
| | Sulphates ($SO_4$) (max), Phenolic Compounds as $C_6H_5OH$ (max), Iron as Fe (max), Nitrate as $NO_3$ (max), Anionic Detergents (max), Total Coli form | | | |
| Ground water quality parameters | Color, Odour, Taste, Turbidity, pH, Total Hardness (as $CaCO_3$), Iron (as Fe) , Chloride (as Cl) ,Residual Free Chlorine, Total Dissolved Solids as TDS, Calcium as Ca, Magnesium as Mg, Copper as Cu, Manganese as Mn, Sulphate as $SO_4$, Nitrate as $NO_3$, Fluoride as F, Phenolic Compounds as $C_6H_5OH$, Mercury as Hg, Cadmium as Cd, Selenium as Se, Arsenic as As, Cyanide as CN, Lead as Pb, Zinc as Zn, Total Chromium as Cr, Mineral Oil, Alkalinity, Aluminium as Al, Boron, Total Coliform as TC | 8 | Once during the study period | |
| D. Land<br>a. Soil quality<br>b. Land use | Conductivity, pH, Texture, Sand, Silt, Clay, Bulk, Density, Exchangeable Calcium, Exchangeable Sodium, Exchangeable Magnesium, Available Potassium, Available Phosphorus, Available Nitrogen, Organic Matter, Organic Carbon, Water Soluble Chloride, Water Soluble Sulphate, Sodium Absorption Residue, | 6 | Once during the study period | |

| **Attributes** | | **Sampling** | | **Remarks** |
|---|---|---|---|---|
| | | **No. of stations** | **Frequency** | |
| | Aluminium, Iron, Manganese, Boron, Zinc, Chromium, Hexavalent Chromium, Nickel, Copper, Cadmium | | | |
| E. Biological<br>a. Aquatic<br>b. Terrestrial | Biological study including study of flora and fauna within 10km radius area has been carried out. | 10 km radius study area | Primary survey during study period.<br>Secondary data collection from Forest department | |
| F. Socio-economic parameters | Need based survey and socio-economic survey (selected samples) have been carried out. | 10 km radius study area | Primary survey during study period.<br>Secondary data collection from Govt. offices, Village Panchayats, Census of India records | |

42.2.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

42.2.11 Name of the EIA Consultant: M/s. Visiontek Consultancy Services Private Limited [S. No. 97, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

42.2.12 M/s. Narbheram Power and Steel Private Limited has earlier made an application online vide proposal no. IA/OR/IND/202021/2021, dated 12/06/2021. The proposal was considered) in 39th meeting of the Re-constituted EAC (Industry-I) held on 30th June – 1st July, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee held on 30th June – 1st July, 2021**

42.2.13 The EAC noted the following:

- i. Out of 57.005 acres of land, 47.315 acres is forest land. Application for FC is under process. PP has not optimized the land requirement to reduce of the extent of forest land involvement.
- ii. There is a village (Jhadagaon) within 400 meters and also a temple of Shiva 1.6 Km away.
- iii. There are three villages adjacent to Easter boundary of the proposed plant.
- iv. Tanta Air Strip is only 200 meters in eastern side of the project site.
- v. Revisit of layout of the plant is required
    - a. Optimize the area requirement with specific emphasis on reducing Forest land.

b. Layout plan be designed to keep the polluting units at maximum distance away from villages.
c. Transfer of iron ore from mines to plant by closed conveyor.

**Recommendations of the Committee held on 30th June – 1st July, 2021**

42.2.14 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present from to address the shortcomings enumerated at para 42.2.13.

42.2.15 M/s. Narbheram Power and Steel Private Limited has again made an online application vide proposal no. IA/OR/IND/222700/2021 dated 01/08/2021. The proposal was considered in 42nd meeting of the Re-constituted EAC (Industry-I) held on 12-13th August, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee**

42.2.16 The EAC noted the following:

i. Jhadagaon village is 1.39 km and Shiva Temple is 2.26 km from site. The layout has been designed such that the chimneys are 1.84 km from village and 2.65 km from the Temple.
ii. Tanto Village is 200m North and other villages are more than a kilometer from plant boundary. Thick green belt shall be planted towards Tanto Village.
iii. Iron ore shall be transported by closed conveyor to the plant.
iv. There are 133 trees to be cut from site.
v. Road to Tanto village shall be outside the boundary of the plant.
vi. Highway is 250m North and Barbil Railway station is 6.1 km.
vii. 12000 KLPA Furnace Oil and 2.5 KLPA Light Diesel Oil shall be used as fuel in Pellet Plant along with coal gas.
viii. PM level from chimneys shall be <30 mg/Nm$^3$.
ix. Venturi Scrubbers are proposed for pollution control from Kiln. It is recommended that ESP shall be used to reduce water consumption and for reuse of dust collected in the pellet plant.
x. 4800 KLD water shall be used and the same shall be sourced from Baitarni River 18.4 km from plant.
xi. In view of the area reduction and re-orientation of the site, the AAQ monitoring locations would undergo change. The monitoring shall be done again.

**Recommendations of the Committee**

42.2.17 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

i. Status of stage I FC for the diversion of 12.987 ha of forest land shall be submitted as per the MoEF&CC O.M. dated 9/9/2011.
ii. The project proponent shall submit action plan for reuse/ recycling of entire wastewater after treatment.
iii. Permission for tree cutting (133) should be obtained from the competent authority. Action plan for compensatory plantation in lieu of 133 trees to be cut from the site shall be furnished. The number of compensatory trees should not less than 5 times the

number of trees to be felled. This compensatory tree planting should be in addition to the 33% green belt.

iv. Action plan to limit the dust emission from all the stacks below 30 mg/Nm$^3$ shall be furnished. Bag filters and ESP shall be used for particulate emission control

v. Action plan for fugitive emission control in the plant premises shall be provided.

vi. Action plan for green belt development covering 33% of the area shall be submitted. This shall include green belt development of 20 meters width towards the Tanto Village located at 200m Northern direction.

vii. Action plan for 100 % solid waste utilization shall be submitted.

viii. Action plan for rain water harvesting shall be submitted.

ix. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.

x. 4800 KLD water shall be used and the same shall be sourced from Baitarni River 18.4 km from plant. No ground water abstraction shall be permitted.

xi. An incinerator to destroy phenolic water and other toxic constituents shall be installed as per CPCB guidelines along with online emission monitoring systems.

xii. A water reservoir of 2.65 Acres shall be constructed for rain water harvesting and recharge.

xiii. Fresh monitoring of baseline data shall be carried out and used for preparation of EIA report.

42.3 Greenfield project of steel plant comprising of Sponge Iron: 2,10,000 TPA (DRI Kiln: 2x200 TPD + 3x100 TPD), Hot Billets/ MS Billets/ Ingots: 1,80,000 TPA (IF: 5x12T with matching LRF & CCM), TMT Bars / Structural Steel: 1,80,000 TPA (RM: 2x300TPD), Ferro Alloy Unit: 1x9 MVA (FeSi-7,000 TPA / FeMn-25,200 TPA / SiMn-14,400 TPA / FeCr-15,000 TPA), Power Plant: 29 MW (WHRB: 14 MW + CFBC: 15 MW) and Brick Manufacturing unit: 30,000 Bricks/Day by **M/s. Balajee Sponge and Power Private Limited** located at Chourenga Village, Simga Tehsil, **Balodabazar Bhatapara District, Chhattisgarh [**Online Proposal No. IA/CG/IND/221771/2021; File no: IA-J-11011/292/2021-IA-II(I)] **– Prescribing of Terms of Reference– regarding.**

42.3.1 PP vide email dated 11/08/2021 expressed their inability to participate in the meeting due to medical reasons and requested to consider the same in the next hearing.

42.3.2 It was apprised to the EAC to consider the proposal in the absence of proponent and their EIA consultant based on the records made available by them as per the Ministry's O.M. dated 18/11/2020 pertaining to streamlining the process of grant of Environment Clearance. However, the EAC opined that proposal shall be considered in presence of proponent only as they have requested for deferment of the proposal.

42.3.3 In view of the foregoing and after detailed deliberations, the Committee recommended that proposal shall be listed for consideration in the forthcoming EAC meeting.

42.4 Proposed steel manufacturing unit comprising of TMT Bars + Wire Rod - 4,50,000 TPA, 500 TPD DRI kiln along with Captive Power Plant consisting of 25 MW turbine and 50 TPH steam from Waste Heat Recovery Boiler facility by **M/s. Anjar TMT Steel Private Limited** located at Survey No. 652/P-1, Welspun City, Village: Varsamedi, Taluka: Anjar,

**District Kutch, Gujarat [**Online Proposal No. IA/GJ/IND/221430/2021; File no: IA-J-11011/289/2021-IA-II(I)] **– Prescribing of Terms of Reference– regarding**

42.4.1 M/s. Anjar TMT Steel Private Limited has made an application online vide proposal no. IA/GJ/IND/221430/2021 dated 02/08/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (Ferrous and Non-ferrous) Under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Centre level.

**Details submitted by Project proponent**

42.4.2 The project of M/s. Anjar TMT Steel Private Limited is located at Survey No. 652/P-1, Welspun City, Village: Varsamedi, Taluka: Anjar, District Kutch, Gujarat is for setting up of Metallurgical Unit Steel TMT Rebars and Wire Rods manufacturing rolling mill, DRI Manufacturing plant along with Captive Power Plant consisting of 25 MW turbine and 50 TPH steam from Waste Heat Recovery Boiler facility.

42.4.3 Environmental site settings:

| S No | Particulars | Details | Remarks |
|---|---|---|---|
| i | Total land | 7.16 ha<br>(Private: 7.16 ha) | -- |
| ii | Existence of habitation & involvement of R&R, if any. | None | -- |
| iii | Latitude and Longitude of the project site | Latitude: 23° 6'39.79"N<br>Longitude: 70° 5'6.31"E | |
| iv | Elevation of the project site | 35 m above MSL | |
| v | Involvement of Forest land if any. | There is a no involvement forest land. | |
| vi | Water body exists within the project site as well as study area | **Project site:** Nil<br>**Study area:**<br>Sang River: 0.6 km/ South<br>Churwa River: 3.55 Km/ NNE<br>Pond: 3.0km/ NNE<br>Pond: 3.7km/ NNW<br>Shinai Lake: 5.66km/ SSW | -- |
| vii | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | Nil | |

42.4.4 The unit configuration and capacity of proposed project is given as below:

| **S No** | **Name** | **Proposed Units** | |
|---|---|---|---|
| | | **Configuration** | **Production TPA** |
| 1 | TMT Bars + Wire Rod | 1 x 4,50,000 TPA | 4,50,000 TPA |
| 2 | DRI (sponge Iron) | 1 x 500 TPD | 1,65,000 TPA |
| 3 | WHRB | 1 x 50 TPH | 50 TPH |
| 4 | Turbine | 1 x 25 MW | 25 MW |

42.4.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| **S No** | **Raw Material** | **Quantity required per annum** | **Source** | **Distance from site (Kms)** | **Mode of Transportation** |
|---|---|---|---|---|---|
| 1 | Iron Ore / Pellet | 3,00,000 T | Karnataka/ Chhattisgarh /Orissa/Import | | By Rail/Road/Sea |
| 2 | Non-Coking Coal | 2,00,000 T | Indonesia/South Africa | | By Sea |
| 3 | Dolomite | 20,000 T | Rajasthan/Import | | By Road/Sea |
| 4 | Billet | 4,75,000 T | WSL/other manufacturers | | Roller Table/Road/Rail |
| 5 | Epoxy Resin | 1,200 T | Domestic Supplier | | By Road |

42.4.6 The water requirement for the project is estimated as 3646 $m^3$/day, out of which 2629.2 $m^3$/day of freshwater requirement will be obtained from the Municipal treated water STP (WIL STP) and the remaining requirement of 1016.80 $m^3$/day will be met from the treatment water.

42.4.7 The power requirement for the project is estimated as 12 MW, which will be obtained from the proposed captive power plant of 25 MW.

42.4.8 The capital cost of the project is Rs. 470 Crores and the capital cost for environmental protection measures is proposed as Rs. 273 Crores. The employment generation from the proposed project will be 470 persons.

42.4.9 Proposed Terms of Reference (Baseline data collection period: **1st March 2021 to 31st May 2021):**

| **Attributes** | **Sampling** | | **Remarks** |
|---|---|---|---|
| | **No. of stations** | **Frequency** | |
| A. Air | | | Baseline study is completed 1st March 2021 to 31st May 2021 and report preparation is ongoing |
| a. Meteorological parameters | 1 (Project Site) | Continuous for three months | |
| b. AAQ parameters | 8 Nos. | Twice a week (24hourly) | |
| B. Noise | 8 Nos. | Once in a study period | |

| **Attributes** | **Sampling** | | **Remarks** |
|---|---|---|---|
| | **No. of stations** | **Frequency** | |
| C. Water | | | |
| Surface water/Ground water quality parameters | 8 Nos. of Surface Water<br>8 Nos. of Ground Water | Once in a study period<br>Once in a study period | |
| D. Land | | | |
| a. Soil quality<br>b. Land use | 8 Nos.<br>10 km radius study area | Once in a study period | |
| E. Biological<br>a. Aquatic<br>b. Terrestrial | 10 km radius study area | Once in a study period | |
| F. Socio-economic parameters | 10 km radius study area | Once in a study period | |

42.4.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

42.4.11 Name of the EIA Consultant: M/s. Shree Green Consultants [S No. 33, List of ACOs with their Certificate / Extension Letter no. Rev. 13, August 09, 2021].

**Observations of the Committee**

42.4.12 The EAC noted the following:

i. TOR is being sought for undertaking EIA study for setting up of steel manufacturing unit comprising of TMT Bars + Wire Rod - 4,50,000 TPA, 500 TPD DRI kiln along with Captive Power Plant consisting of 25 MW turbine and 50 TPH steam from Waste Heat Recovery Boiler facility.
ii. Land available is 7.16 ha and the land is located within the Welspun city.
iii. As per the KML file, there is a shed existing at the site. In this regard, PP has submitted an undertaking stating that the site along with the shed was transferred by M/s. Welspun Metalics Limited to M/s. Anjar TMT Steel Private Limited. No activity has been commenced by the project proponent at the site.

**Recommendations of the Committee**

42.4.13 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

i. The plant shall submit action plan for reuse/ recycling of entire wastewater after treatment.
ii. Action plan to limit the dust emission from all the stacks below 30 mg/Nm$^3$ shall be furnished.
iii. Action plan for fugitive emission control in the plant premises shall be provided.
iv. Action plan for 100 % solid waste utilization shall be submitted.
v. Action plan for rain water harvesting shall be submitted.

vi. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.

vii. Action plan for green belt development covering 33% of the area shall be submitted including green belt development towards Sang River which is located at a distance of 600 m from the plant boundary.

viii. No construction activity/infringement will take place in flood plain of Sang River. Authenticated HFL data of the Sang River from the concerned Competent Authority shall also be submitted along with the EIA report.

42.5 Expansion of Steel Plant – DRI Kilns (Sponge Iron from 2,25,000 TPA to 7,86,000 TPA), Induction Furnaces along with CCM & LRF (MS Ingots / Billets/ Hot Charging from 2,34,300 TPA to 6,95,800 TPA), Rolling Mill (Hot Rolled TMT / Structural / Cold Rolled Bars/Wire Rod - 2,90,000 TPA to 7,19,000 TPA), 2 x 9 MVA Ferro Alloys, 1 x 30 T Electric Arc Furnace, WHRB based Power Plant from 10 MW to 46 MW, FBC based Power Plant from 7 MW to 25 MW, New 1.2 MTPA of I/O Beneficiation plant, New 0.8 MTPA of I/O Pellet Plant by **M/s. Shyam Steel Manufacturing Limited** located at Jemua Mouza, Mejia Block, **Bankura District, West Bengal. [**Online Proposal No. IA/WB/IND/217638/2021; File no: J-11011/724/2007-IA.II(I)] – **Amendment in Terms of Reference**– regarding.

42.5.1 M/s. Shyam Steel Manufacturing Limited has made online application vide proposal no. IA/WB/IND/217638/2021 dated 01/07/2021 along with Form 3 and sought for amendment in the Terms of Reference accorded by the Ministry vide letter no. J-11011/724/2007-IA.II(I) 01/06/2021.

**Details submitted by the project proponent**

42.5.2 The standard TOR was issued for expansion of Steel Plant – DRI Kilns (Sponge Iron from 2,25,000 TPA to 7,86,000 TPA), Induction Furnaces along with CCM & LRF (MS Ingots / Billets/ Hot Charging from 2,34,300 TPA to 6,95,800 TPA), Rolling Mill (Hot Rolled TMT / Structural / Cold Rolled Bars/Wire Rod - 2,90,000 TPA to 7,19,000 TPA), 2 x 9 MVA Ferro Alloys, 1 x 30 T Electric Arc Furnace, WHRB based Power Plant from 10 MW to 46 MW, FBC based Power Plant from 7 MW to 25 MW, New 1.2 MTPA of I/O Beneficiation plant, New 0.8 MTPA of I/O Pellet Plant.

42.5.3 Instant request of proponent is for seeking waiver of public consultation for the expansion project.

42.5.4 Reasons for TOR Amendment sought:
M/s. Shyam Steel Manufacturing Limited have obtained EC vide F. No. J-11011/724/2007-IA-II (I) on 24/052019, for which Public Hearing /Consultation was conducted on 30/11/2018. Now, the proposal is for seeking waiver of public hearing for their expansion project.

42.5.5 It was apprised to the EAC that there is no provision under the EIA notification, 2006 for waiver of public hearing for the instant expansion project.

**Recommendations of the Committee**

42.5.6 In view of the foregoing and after deliberations, the Committee recommended for the rejection of ToR amendment proposal as there is no provision under the EIA notification, 2006 for waiver of public hearing for the instant expansion project.

42.6 Expansion and augmentation of integrating melting and rolling facility by **M/s. Amba Shakti Ispat Limited** located at Plot no.6 & 6A, Industrial Area Phase 2, Kala Amb, Tehsil- Nahan, **District Sirmaur, Himachal Pradesh.** [Online Proposal No. IA/HP/IND/222082/2021; File no: IA-J-11011/228/2018-IA-II.(I)] –**Extension of validity of Terms of Reference**– regarding.

42.6.1 M/s. Amba Shakti Ispat Limited has made online application vide proposal no. IA/HP/IND/222082/2021 dated 28/07/2021 along with Form 5 and sought for validity extension of Terms of Reference accorded by the Ministry vide letter no. J-11011/228/2018-IA.II(I) 16/08/2018.

**Details submitted by the project proponent**

42.6.2 The ToR was issued for expansion and augmentation of Integrating melting and rolling facility M/s. Amba Shakti Ispat Limited located at plot no 6 & 6A, Industrial area phase 2, Kala Amb, Tehsil- Nahan, District- Sirmaur, Himchal Pradesh.

42.6.3 Reason for seeking validity extension of ToR:

After grant of ToR, baseline monitoring was conducted on 1st December’ 2018 to 28th February’ 2019 and draft EIA/EMP report was prepared and submitted to Himachal Pradesh Pollution Control Board on dated 21.12.2019. Afterwards, public hearing (PH) was scheduled on 08.04.2020 but due to COVID-19 situation PH was postponed. Again, new date was given on 27.04.2021 but due to COVID-19 situation again postponed. Now, scheduling of new PH is in process. Approved ToR is going to expire on 16th August’ 2021.

**Observations of the Committee**

42.6.4 The Committee noted the following:

i. ToR was granted on 16/08/2018.
ii. As per the MoEF&CC notification S.O. 751 (E) dated 17/02/2020, ToRs are valid for a period of four years from date of issue of this letter. In view of this, the instant ToR is valid till 15/08/2022.

**Recommendations of the Committee**

42.6.5 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form as the validity is ToR is up to 15/08/2022 based on the MoEF&CC notification S.O. 751 (E) dated 17/02/2020.

## 13th August, 2021

42.7 Aluminium Smelter (from 16 LTPA to 18 LTPA); CPP (1215 MW) by adding 2 LTPA plant by **M/s. Vedanta Limited** located at Village Bhurkamunda, P.O. Kalimandir, **District Jharsuguda, Odisha** [Online Proposal No. IA/OR/IND/222980/2017, File No. J-11011/29/2007-IA.II(I)] –**Environment Clearance– regarding.**

**ANNEXURE 8**

J- 11012/07/2021-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhavan
Jor Bagh, New Delhi

Dated: 01/12/2021

To

Shri Shridhar V Gauns
H.No. 139/C, Pimpal Wada
*Amona Bicholim Goa*
*Post Marcel Goa* – 403107

**Subject :- Registration Number : MOENF/R/P/21/00457**

Dear Sir,

I am to refer to your request for information under RTI Act 2005, received vide letter dated 3/11/2021 received under transfer from Goa Pollution Control Board vide letter dated 9th November 2021 and to say that a copy of the Show Cause Notice dated 31st August 2021 issued to M/s Vedanta Limited wrt point No 4 of the RTI application is attached.

2. In case, you want to go for an appeal in connection with the information *provided*, you may appeal to the Appellate Authority indicated below within ***thirty days*** from the date of receipt of this letter.

**Shri Sundar Ramanathan**
FAA & Scientist-E
Indira Parayavaran Bhawan
Jor BaghNew Delhi
Phone No.: 011- 24695304

True copy

Encl: As above

Yours faithfully

1/12/21

( R.S. Bora)
Under Secretary to the Govt of India and CPIO
Phone No.: 011-24610886
Email : rs.bora@nic.in

F. No. J-11011/946/2007.IA II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj,
New Delhi – 110003

E-mail: r.sundar@nic.in
Tel: 011-24695304

Dated: 31st August, 2021

To

**Shri Navnath L Vhatte,**
**Head – Value Addition Business**
M/s. Vedanta Limited,
Village Navelim, Taluka Bicholim,
District North Goa, Goa - 403505
Tel: 832- 2385201; E-mail: mahesh.mahajan@vedanta.co.in

Subject: Up-Gradation of Blast Furnaces (BF) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity by **M/s. Vedanta Limited (Formerly M/s. Sesa Goa Limited) located at Villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa – Show cause Notice (SCN) issued under section 5 of the Environment (Protection) Act, 1986 for violation of provisions of EIA Notification 2006 – reg.**

Sir,

Whereas Ministry of Environment, Forest and Climate Change (MoEF&CC) vide letter no. J-11011/946/2007-IA II (I) dated 03/06/2009 accorded Environment Clearance (EC) to M/s. Vedanta Limited (Formerly M/s. Sesa Goa Limited) [*herein after referred to as Project Proponent*] for the project titled "Blast Furnaces (0.90 MTPA), Sinter Plant (2 MTPA) Coke Oven Plant (0.63 MTPA) and Waste heat recovery power plant (60MW) located at village Navelim, Bicholim Taluka, North Goa" under the provisions of EIA Notification, 2006. Amendment in EC in pursuance to the Hon'ble NGT Order dated 4/12/2017 in Original Application No. 111 of 2017 was obtained vide letter F. No J-11011/946/2007-IA.II(I) dated 07/01/2020 wherein additional conditions were prescribed for compliance.

2. Whereas, the project proponent vide proposal no. IA/GA/IND/89225/2018 dated 20/12/2018 made online application along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project titled "Up-Gradation of Blast Furnaces (BF) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); setting up of additional oxygen plant, installation of ductile iron pipe

(010)

15 Sent

31/8/21

True Copy

plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity located at Villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa".

3. Whereas, the expansion proposal cited above was considered during the 3rd meeting of Reconstituted Expert Appraisal Committee [REAC] (Industry-1) held on 09-11th January, 2018 and the REAC has recommended for issuance of Terms of Reference (ToR).

4. Whereas, this Ministry had granted ToR to the expansion proposal cited above vide letter of even no. dated 06/03/2019 to the project proponent.

5. Whereas, Goa State Pollution Control Board vide letter no. 10/1/21-PCB/Vol XXII/Tech/5567 dated 02/07/2021 furnished the certified compliance report with respect to the conditions prescribed in the EC dated 03/06/2009 and additional conditions as per EC amendment dated 07/01/2020. According to the certified compliance report of GSPCB, the project proponent is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB also is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village Temple Lake.

6. Whereas, the project proponent vide proposal no. IA/GA/IND/215662/2018 dated 29/07/2021 made online application along with copy of EIA/EMP report, Form – 2 and certified EC compliance report of GSPCB dated 02/07/2021 seeking EC under the provisions of the EIA Notification, 2006 for the expansion proposal mentioned above.

7. Whereas, the expansion proposal cited above was considered during the 42nd meeting of Reconstituted Expert Appraisal Committee [REAC] (Industry-1) held on 12-13th August, 2021 and after detailed deliberations, the Committee recommended to return the proposal in its present form due to technical deficiencies in the submitted proposal and further advised for issuance of Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as stated below:

i. According to the certified compliance report of GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.

ii. As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this.regard.

iii. Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

*iv. There are 18 sites of archeological importance in the study area. In this regard, no approval/clearance from the Archeological Survey of India has been obtained till date although the unit is under operation since 1992.*

v. There are 7 schedule I species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

vi. The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.

8. Whereas, as per the Ministry's O.M. No. J-11015/286/2007-IA.II(I) dated 07/02/2020 any specific non-compliance is singled out while the project is being appraised by the EAC, the concerned sector shall issue Show Cause Notice (SCN) or take any other necessary action, as appropriate.

*9. Whereas serious non-compliances with the stipulated environment clearance conditions mandate commensurate action; and*

10. Now, therefore, under Section '5' of Environment (Protection) Act, 1986, you are hereby directed to show cause within **30 days** of receipt of this notice as to why the EC and ToR accorded to **M/s. Vedanta Limited (Formerly M/s. Sesa Goa Limited)** vide letter no. J-11011/946/2007.IA II (I) dated 03/06/2009 and 06/03/2019 should not be revoked. In your response, it may also be clearly stated whether a hearing is required by the project proponent before a final order is passed by this Ministry. It may also be noted that if no response is received within **30 days**, appropriate orders, as may be deemed fit, will be passed and issued under the circumstances of the case without any further notice to you. Also, this show cause is without prejudice to any other legal action which may be taken against you.

11. This issues with the approval of the Competent Authority.

*Yours faithfully,*

3/8/21

**(Sundar Ramanathan)**
**Scientist 'E'**

**Copy to:**

1. Secretary, Department of Environment, Government of Goa, Panaji.
2. Regional Officer, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore – 560034
3. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD- The Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
4. Chairman, Goa State Pollution Control Board, Dempo Tower, EDC Plaza, 1st Floor, Panaji, Goa- 403 001
5. Member Secretary, Central Ground Water Authority, A2, W- 3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
6. District Collector, North Goa, Govt. of Goa.
7. Monitoring File/Guard File/ Record File.
8. MoEF&CC Website

31/8/21
**(Sundar Ramanathan)**
**Scientist 'E'**

**J-11012/07/2021-IA-II(I)**
**Government of India**
**Ministry of Environment, Forest and Climate Change**
**Indira Paryavaran Bhawan**
**Jor Bagh Road, New Delhi**

Dated: 01/12/2021

To:
Shri Shridhar V. Gauns
H.No. 139/C, Pimpal Wada
Amona Bicholim Goa
Post Marcel Goa 403107

**Subject: Registration Number: MOENF/R/P/21/00457**

Dear Sir,

I am to refer to your request for information under RTI Act 2005, received vide letter dated 3/11/2021 received under transfer from Goa Pollution Control Board vide letter dated 9th November 2021 and to say that a copy of the Show Cause Notice dated 31st August 2021 issued to M/s. Vedanta Limited wrt point no. 4 of the RTI application is attached.

2. In case, you want to go for an appeal in connection with the information provided, you may appeal to the Appellate Authority indicated below within thirty days from the date of receipt of this letter.

Shri Sundar Ramanathan
FAA & Scientist-E
Indira Paryavaran Bhawan
Jor Bagh Road, New Delhi
Phone No: 011-24695304

Encl: As above

Yours faithfully
Sd/- (R.S. Bora)
Under Secretary to the Govt of India and CPIO
Phone No. 011-24610886
Email: rs.bora@nic.in

F.No. J-11011/946/2007.IA.II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj
New Delhi 110 003
Email:r.sundar@nic.in

Dated: 31st August 2021

To:

Shri Navnath L Vhatte
Head – Value Addition Business
M/s. Vedanta Limited
Village Navelim, Taluka Bicholim
District North Goa, Goa 403
Tel. 0832-2385201;
Email: Mahesh.mahajan@vedanta.co.in

Subject: Up-Gradation of Blast Furnaces (BF) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity by **M/s. Vedanta Limited**

**(Formerly M/s. Sesa Goa Limited) located at villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa – Show cause Notice (SCN) issued under section 5 of the Environment (Protection) Act, 1986 for violation of provisions of EIA Notification 2006 – reg.**

Sir,

Whereas Ministry of Environment, Forest and Climate Change (MoEF & CC) vide letter no. J-11011/946/2007-IA II (I) dated 03/06/2009 accorded Environment Clearance (EC) to M/s Vedanta Limited (Formerly M/s. Sesa Goa Limited) [*herein after referred to as Project Proponent*] for the project titled "Blast Furnaces (0.90 MTPA), Sinter Plant (2 MTPA) Coke Oven Plant (0.63 MTPA) and Waste heat recovery power plant (60MW) located at village Navelim, Bicholim Taluka, North Goa" under the provisions of EIA Notification, 2006. Amendment in EC in pursuant to the Hon'ble NGT Order dated 4/12/2017 in Original Application No. 111 of 2017 was obtained vie letter F.No. J-11011/946/2007-IA.II(I) dated 07/01/2020 wherein additional conditions were prescribed for compliance.

2.Whereas, the project proponent vide proposal no. IA/GA/IND/89225/2018 dated 20/12/2018 made online application along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA

Notification, 2006 for the project titled "Up-Gradation of Blast Furnaces (BF) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); setting up of additional oxygen plant, installation of ductile iron pipe plant and additional met coke battery, setting up of Fe-Si plant of 5,000 TPA capacity located at Villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa"

3. Whereas the extension proposal cited above was considered during the 3rd meeting of Reconstituted Expert Appraisal Committee (REAC) (Industry-I) held on 09-11th January, 2018 and the REAC has recommended for issuance of Terms of Reference (ToR).

4. Whereas this Ministry had granted ToR to the expansion proposal cited above vide letter of even no. dated 06/03/2019 to the project proponent.

5. Whereas, Goa State Pollution Control Board vide letter no. 10/1/21-PCB/Vol XXII/Tech/5567 dated 02/07/2021 furnished the certified compliance report with respect to the conditions prescribed in the EC dated 03/06/2009 and additional conditions as pr EC amendment dated 07/01/2020. According to the certified compliance report of the GSPCB, the project proponent is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilisation, installation of CAAQMS,

secondary emission control during charging / material tapping / slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB also is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village Temple lake.

6. Whereas, the project proponent vide proposal no. IA/GA/IND/215662/018 dated 29/07/2021 made online application along with copy of EIA / EMP report, Form -2 and certified EC compliance report of GSPCB dated 02/07/2021 seeking EC under the provisions of the EIA Notification, 2006 for the expansion proposal mentioned above.

7. Whereas, the expansion proposal cited above was considered during the 42nd meeting of Reconstituted Expert Appraisal Committee (REAC) (Industry-I) held on 12th-13th August, 2021 and after detailed deliberations, the Committee recommended to return the proposal in its present form due to technical deficiencies in the submitted proposal and further advised for issuance of Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as stated below:

i. According to the certified compliance report of the GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilisation, installation of CAAQMS, secondary emission control during charging / material tapping / slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB also is in receipt of a complaint from the resident of Dhakalmania wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village Temple lake.

ii. As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

iii. Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45,000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

iv. There are 18 sites of archaeological importance in the study area. In this regard, no approval / clearance from the Archaeological Survey of India has been obtained till date although the unit is under operation since 1992.

v. There are 7 schedule I species in the study area. In this regard, requisite wildlife conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

vi. The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover, Green belt has not been developed all along the periphery of the site.

8. Whereas, as per the Ministry's O.M. No. J-11015/286/2007.IA.II (I) dated 07/02/2020 any specific non-compliance is singled out while the project is being appraised by the EAC, the concerned sector shall issue Show Cause

Notice (SCN) or take any other necessary action, as appropriate.

9. Whereas serious non-compliances with the stipulated environment clearance conditions mandate commensurate action; and

10. Now, therefore, under Section '5' of the Environment (Protection) Act, 1986, you are hereby directed to show cause within 30 days of receipt of this notice as to why the EC and ToR accorded to M/s Vedanta Limited (Formerly M.s, Sesa Goa Limited) vide letter no. J-11011/946/2007.IA.II (I) dated 03/06/2009 and 06/03/2019 should not be revoked. In your response, it may also be clearly stated whether a hearing is required by the project proponent before a final order is passed by this Ministry. It may also be noted that if no response is received within 30 days, appropriate orders as may be deemed fit, will be passed and issued under the circumstances of the case without any further notice to you. Also, this show cause is without prejudice to any other legal action which may be taken against you.

11. This issues with the approval of the Competent Authority.

Yours faithfully

Sd/-
(Sundar Ramanathan)
Scientist 'E'

Copy to:

1. Secretary, Department of Environment, Government of Goa, Panaji
2. Regional Officer, Ministry of Environment and Climate Change, Integrated Regional Office,Kendriya Sadan, 4th Floor, E& F Wings, 17th Main Road, Koramangala II Block, Bangalore 560034
3. Chairman, Central Pollution Control Board, Parivesh, Bhawan, CBD-The Cum-Office Complex, East Arjun Nagar, New Delhi 110 032
4. Chairman, Goa State Pollution Control Board, Dempo Tower, EDC Plaza, 1st Floor, Panaji, Goa 403 001
5. Member Secretary, Central Ground Water Authority, A2, W-3 Curzon Road Barracks, K.G. Marg, New Delhi 110 001
6. District Collector, North Goa, Govt of Goa
7. Monitoring File / Guard File / Record File
8. MoEF & CC Website

Sd/-

(Sundar Ramanathan)

Scientist ‘E’

ANNEXURE 9 COLLY

**Proceedings of the Environmental Public Hearing held on 14/03/2021 from 10.30 am to 11.30 p.m. at the Government Village Play Ground Navelim, Near Vividha Higher Secondary School, Navelim, Sankhali Goa.**

**In respect of:**

**"Proposed Up-gradation of Blast Furnaces (BF) to enhance the production capacity of BF- 1 & 2 from 2,92,000 TPA to 3,50,000 TPA, BF-3 from 5,40,000 TPA to 6,50,000 TPA, setting up of Additional Oxygen Plant, Installation of Ductile Iron Pipe Plant of 3,00,000 TPA capacity, 4 additional Met Coke ovens, setting up of Fe-Si Plant of 5,000 TPA capacity at Amona and Navelim Villages, Bicholim Taluka, North Goa District, Goa", by M/s. Vedanta Ltd.**

Additional Collector III Shri. Mahadev J. Araundekar tried to start the public hearing mentioning the time, however the crowd objected the saying that the location where the hearing is being conducted that is Plot No.51/1 belongs to Shri. Pratap Gauns and that his permission is not taken for conducting the public hearing. For the same the Addl. Collector replied that all the necessary permissions have been taken and this hearing is being conducted in compliance to the directions of the Hon'ble High Court of Bombay at Goa.

The crowd objected unanimously by shouting slogans. The Additional Collector further mentioned that all the objections addressed by the public/ speakers will be taken on record and requested to start the public hearing proceedings and explained to the public that permissions have been taken from the Sports Authority of Goa (SAG) to carry out the public hearing at the venue i.e. plot no.51/1. The permission of SAG was displayed to the public on the screen.

Preliminary objections to conduct the Public Hearing were submitted by the participants as under;

**Preliminary objection**:

Accordingly, the following individuals have raised the issues/gave suggestions which are as under.

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| Preliminary objections | The People objected to Collector speaking English. People objected to conducting of Public Hearing in the plot belonging to private persons without NOC of the owner. Additional |

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| | Collector replied that all permissions were taken including Permission from SAG. People objected unanimously. The Additional Collector requested the public to start the proceedings of the Public and Hearing and stated that objections of public shall be noted down. Additional Collector stated that permissions are taken and displayed the same on the screen. |
| Pratap Gauns | Additional Collector permitted Shri Pratab Gauns Ex –MLA to raise preliminary objections. Pratap raised the objections that this property on which the hearing is being held belongs to Mr. Prabhakar Esso Gauns and presently hearing is pendingbefore the court and after the death of Mr. Prabhakar, the Pratap Gauns being the son of Mr Prabhakar is the legal owner of the said property .The Venue of the Public hearing is in Sy.No.51/1 and no permissions has been taken from the owner of the property for the said hearing .He further states that the Government means "Us" that is of the people ,for the people and by the people and he warned the organisers of the public hearing that he would file case against them for trespassing into his property, if the public hearing is not stopped. He opposed to the project. |
| | The Additional Collector replied that the property matter shall be resolved in the court |
| | District Magistrate Mr Ajit Roy (IAS) intervenes and requested the crowd to come forward and place their objections /suggestions so that they can be recorded. |
| Adv. Vithal Naik | The objectors from the crowd the public asked the Collector why the project proponent officials are sitting next to the panel members as they are not authorised to do the so as per the EIA Notifications. He opposed to the project. |
| | The District Magistrate Mr.Ajit Roy replied saying that the company officials were given place to sit next to the panel as they have to give a presentation on the proposed project as per EIA Notification. He further state that the Public hearing is to be carried out by the District Administration. He further requested the crowd to be seated and cooperate in conducting the public hearing. The collector was asked to show a provision in the EIA notification allowing him to keep the employees present for the Public hearing which was not shown. |
| | The Speakers/objectors requested the District Collector to speak in Konkani and accordingly the District Collector spoke in Hindi Language. |

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| | One person from the crowd raised questions to the District Magistrate to provide EIA Notification under which District Administration is empowered to permit project proponent to sit on the dais. |
| | The Public at large stated that after waiting for more than 3 hrs and the Collector failed to produce any permission, nor NOC nor give a satisfactory reply to the questions raised by the public, the people gathered decided to leave the premises to avoid any further prosecution from the land owner for trespassing. They also stated that GSPCB should get all the permission from the required authorities for the conduct of the Public Hearing and then conduct the same, therefore they requested to cancel/postpone the Public Hearing considering the objections raised by the public. The written submissions regard to the same is also submitted. A total of 167 numbers have filed written submission who were present for the Public hearing, calling for cancellation of the Public Hearing apprehending criminal trespass, A specific Email complaint forwarded to GSPCB and the collector to initiate criminal proceeding for trespass against villagers who were present for Public Hearing. |
| | The presentation started at 2.30 p.m. by Project Proponent. The Additional Collector called out the first speaker's name. |
| Vishwamber Datta Gauns | He gave his objections in writing. He stated he was a resident of Navelim. He has a representation addressed to 4 Departments. He stated that acknowledgment be given on behalf of all 4 departments. The Additional Collector stated that he can give the representation before 22nd March 2021. The speaker stated that he was an employee of M/s. Sesa. There was a dispute regarding land and there was suspension of the employment. In 1982-1983 as a beneficiation plant was started. After the same year the area was environmentally affected. In the year 1996 in 420000 sq land was acquired by Government and given to Sesa Goa. The State Government has illegally encroached the land of the IDC. There was a big conflict in 2012 and all 100 people went to the gates of the company and objected. He also stated that the project proponent said that the raw material will be taken from the resources from Goa. The mining companies / leases are closed. Hence from where will the ore taken.<br>There is an environmental pollution and expansion will cause more environmental pollution and health hazard to the people. |

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| | He opposed to the project. |
| Pratap Gauns | He stated that the GSPCB has taken open hearing on his land and had to take his permission and hence it is illegal.<br>The land at Navelim and Amona is Communidade land and the same is in dispute. He queries that when there is dispute how they can conduct public hearing in survey no.42/1and 43/1. The land is Comminidade land. These two villages are called Revenue Villages. This zone was considered as green zone till today. Green zone is cultivated. When currently there is already pollution then how can a permission can be granted to a new project when it will make cause pollution. All objections regarding land has to be dealt with first and then only can public hearing be conducted. A survey has to be done properly and illegalities have to be removed. The peoples point of view has to be taken into consideration. There is air pollution being caused due to the operation of Company unit. The people in the unit on contract are forced to speak for the company. He opposed to the project. |
| Ramesh Sinari | He states that he is the **General Secretary of Sesa Goa**- where the Pig plant was in operation after 2-4 years a BF II Plant was in operation. A lot of profit and production has increased. He states that with the help of the people the production will increase and there will be a lot of employment to the people. All people started objecting and started throwing chairs at the speaker. The people objecting and asked for withdrawal of the statement of Ramesh Sinari. |
| Nilkant Gauns | He stated that the organisers are troubling the participants attending the public Hearing. The public hearing didn't follow democratic process. The communidade land is a Portuguese concept. The village belongs to original inhabitant Gaonkars. The collector has no right on the communidade of the village. There is defamation of the communidade. The goa govt cannot acquire communidade land. The IDC cannot give the land of the communidade to Vedanta. He displayed the village map of Navelim. He questioned the collector regarding the encroachment in the communidade land by Vedanta. The Vedanta has to pay Rs. 73crores to the communidade of Navelim as compensation towards land used by the company. He accused the govt officials of taking bribes from Vedanta company. He seeks to know from the collector the amount compensation paid by the government to the communidade for |

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| | acquiring its land. He states the Portuguese would never destroy the communidade but the govt of goa is destroying it. He objects to the collector limiting his time to speak. He says that the SOP of the Collector is not as per law. He questioned the urgency to conduct the Public hearing during the covid pandemic. He demands that the company should pay the correct amount of compensation to the villagers. He seeks to know how Vedanta company has altered the boundary between Amona and Navelim. With respect to GSPCB, he states that the PCB is acting as a rubber stamp and not acting as a regulatory authority for which it is established. Its job is to see if the company is following the pollution control laws. He stated that the company has no roads within its premises. Lots of people have died within the company during working hours. He seeks to know from the Member secretary the definition of pollution. There is no action taken or reports on pollution and no action on pollution. 100% utilization of land is used for business purpose. The company has not provided any open space and no residential area for the company employees, and not maintained any green zone. He opposed to the project. |
| Nilesh Babuso Naik | He stated that he is an employee of the company. He has registered to speak with the GSPCB. He states that there is a lot of un-satisfaction among the people due to the expansion of the unit as there are a lot of illegalities done by the project proponent. He states that the expansion of the unit is good if benefits are given to the people of the area like providing jobs, transport and education. The people have to benefit in return of the expansion done by the unit. He opposed to the project. |
| Shyamsundar Naik | He submitted his written objection to the GSPCB. The unit has caused pollution which has destroyed agricultural fields and they are facing water shortages. He opposed to the project. |
| Dipesh Gauns | He states that AAQM machines were installed in front of his house. Within one day the machines went off. He states that he questioned the pollution Board staff on duty the machines stops when they leave the stop. The Pollution Control officials informed him that the machines starts when they come. He stated that light/ electricity from his house will be taken to operate the AAQM machines, however the officials refused. He states operation of the factory causes pollution and health |

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| | hazards to the local villages. He states that the company has done huge construction activities in the area earmarked as Green Zone. He opposed to the project. |
| Kemlo Sawant | Did not speak |
| Uday Pandurang Natekar | He stated that the company has not spoken about pollution in Surla village. The reports by the company are also silent on the issue. GSPCB should verify this aspect. Trees have died due to pollution caused by operation of the plant Banana plantation also are affected. He strongly objected to the project. He opposed to the project. |
| Hari Sone Gauns | Did not speak |
| Milind Naik | He stated that he is the resident of Sankhali Virdi. He also stated that the people are affected by pollution caused by the company. The Bandhara at Virdi, is constructed by the WRD. Sesa Company stated that they will borrow water from the Bandhara at Virdi. This is a coalition between WRD and the Sesa company to built a Bandhara in 2011-2012 at Virdi. However, he states the Bandhara was of no use to the public and would only be used by Sesa Goa company. He states that the company proposed to use 15 lakhs liters of water for daily use. He further states that there is already severe shortage of water. Construction of the Bandh by WRD needs to be inquired into. There is severe graphite pollution at Virdi and the area around the company. Graphite is harmful to humans and animals. The company allowed to release waste oil in water bodies' which is illegal. Migrants workers of the company are causing law and order problems in the village. He opposed to the project. |
| Sanjyot Borker | He specifically stated that he is the employee of Vedanta. He states that he resides around Vedanta. He states that during the Covid Pandamic the company provided lot of help to the locals. He states that the company has carried out lot of pollution control measures at the factory to satisfaction of the GSPCB. He supports the project. |
| Sidhesh Naguesh Gawas | He advises the public to file an RTI seeking the authority of Collector to conduct the Public hearing. He states that the EIA reports submitted by the company should have been explained |

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GOA STATE POLLUTION CONTROL BOARD
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| | to the people at village as directed by Hon'ble High Court. He states awareness regarding public hearing is not done. He states that authorities have failed in their duties. He states that a petition filed by Mr. Pravin Phadte since 2008 is pending. He states GSPCB is aware of pollution by the company yet it is conducting a public hearing for expansion and troubling common people. He states there are serious effects on public health due to the operation of the company. He states the public hearing is only from the public to explain the objection. He states that the public hearing done in a hurry in the covid-19 situation. He feels bribes have been taken by the officials to conduct public hearing in question. He opposed to the project. |
| Narayan Gawas | Narayan raised the objections that this property on which the hearing is being held belongs to Mr. Prabhakar Esso Gauns and presently there are disputes going on between Mr Prabhakar Esso Gauns and Communidade of Navelim and after the death of Mr. Prabhakar, the Pratap Gauns being the son of Mr Prabhakar is the legal owner of the said property. The Venue of the Public hearing is in Sy.No.51/1 and no permissions has been taken from the owner of the property for the said hearing. He further stated that a joint objections filed by the public on the aspect of illegal hearing and trespassing on this land is submitted in writing during the Public Hearing. He states that the Inspection Report of GSPCB conducted in May 2020 indicates pollution in the Village. He states that there is no reason to conduct the public hearing. He states that if pollution exists at present capacity as per GSPCB report then how should public hearing be held for expansion of the said project. He states that the company officials should live in the village to experience pollution due to operation of the factory. He states that the AC filters of local residents are filled with black dust. He opposed to the project. |
| Shantaram Ghadi | He seeks explanation from GSPCB as to why public hearing starts at 2.30 p.m. while the timing was given at 9.30 p.m. He states public has been kept hungry from 9.30 a.m. without food and water. He states that till he is given food and water he will not leave the dais. He states that speakers have insulted him. He opposes the project. |
| Nyaneshwar | Opposed Project Completely |

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| Naik | |
| Vithal Naik | He requested the organization to record his submission s they are made and to transit them to MOEF the same way. He states that covid-19 cases are on rise in the country and conducting of the public hearing contempt of order of the Hon'ble Supreme Court and High Court. He states that MEH guidelines do not permit senior citizen to participate in Public hearing. He states that Public hearing has kept a large section of public out of public hearing process. He requests that public hearing should be conducted again. He States that vide publicity should be given as per a EIA notification. He states has not been done. He states publicity should have been done at village level. Public hearing without awareness has no meaning and states that GSPCB should act as an independent agency. He states company and its existing capacity causing pollution. He questioned the fact that GSPCB is conducting a public hearing for expansion in spite of numerous complaints and Court cases regarding pollution by the company and in spite of the fact that EIA report of the company is silent on the expect of pollution caused by existing company on temple wells, fields and properties. When there is pending litigation on the existing plant including on land issues with the communidade. How can an expansion exercise be done by the company? He questions the agency trying to expand the company. He states that the NEERI Report done in 2008 prescribed 20 measures which has not yet been done. Member Secretary GSPCB has not yet filed a report in the High Court matter of 2017 which is pending till date. GSPCB has conducted site inspection and the reports dated16/12/2020 and January 2021 that the company has already expanded the blast furnace. The Brahma temple at Harvalem cave are excluded in the EIA Report. The EIA mentions 960 MT of water which will be used by the plant. However, it does not mention the impact on locals. He states that due to discharge of slag from the company during the monsoons is not mentioned in the EIA Report. The company claims Air pollution is not caused by the company. He states that this is false and no health assessment is given to the local villagers is not done by the company or mentioned in the EIA report. He opposed to the project. |
| Premanand Naik | He states that he is the Resident of Maina .Today's Public hearing is essential as the proposed project effects two |

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| | Municipal area and thirty villages. He stated that 1.5 to 2 lakhs people will be affected (as per 2011 census).<br>The expansion project to be rejected.<br>Public hearing is being conducted to cheat the public.<br>Public has no knowledge of the proposed expansion of the plant as such public cannot speak on the project.<br>He states that the public should not be troubled by conducting the public hearing. He states that if the Government cares for the public the public hearing should be stopped.<br>He states that he will make his submissions under protest.<br>The existing plant is a demon surrounding areas have been destroyed by this company.<br>The primary school, high school, higher secondary school exists at an ariel distance of<br>200 meters from the existing plant.<br>Betqui , Amona, Marcel villages have schools at an ariel distance of 500 meters from the existence plant.<br>Students mental and physical health is affected due to pollution caused by the company as they have to sit in polluted environment for 5 to 6 hours.<br>Infact today's public hearing is adjustant to a ground i.e. is used by children whose physical health is affected by pollution caused due to the company.<br>The main occupation of the local people is agriculture and this occupation has been destroyed by the pollution caused by the company. He opposed to the project. |
| Pandurang Naik | He states that the Board does not control on its own functioning, then how can they control the pollution caused by the company. He strongly objects to the expansion of the company. He states that when he drives a two wheeler there is a lot of pollution caused which is highly effecting them. He states that the company has to be closed down. He opposed to the project. |
| Digambar Ankush Naik | He states that the GSPCB has no right to conduct the public Hearing and they are responsible for all the pollution. He states that in 1982 the Sesa Goa started in Amona beneficiation plant was set up and saline water was released also mud was saturated in 5 lakh area hence the areas were destroyed and mangroves are grown near the people's houses. There was no compensation given to the people affected. He states that the Company was not ready to solve the water shortages. He questioned who gave them the permission to dig ponds. He stated that no Community service activities were provided to |

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| | the affected people. He stated that there is graphite pollution everywhere and on all plantation and the houses are become black and the chilly plantation are affected. He stated that the company has only employed 2 numbers of people in the village. He strongly objects to the Project. He stated that there needs to be a study on the health of the school students, they are not given any scholarships, no compensation to people, no water supply. There is no clearance to the project from the HPCC. There is seepage of waste water in the ponds, even the cattle do not go in the water. He stated that there is no control on graphite pollution. He opposed to the project. |
| Mahendra Narayan Gauns | Not present |
| Siddharth Ramesh Guans | He stated that he is resident of Navelim last 30 yrs. He states that average life span of residents of the village was 80 yrs. Now it appears a lifespan of 50 yrs, due to pollution caused by the company. His house is 500 metres from the company Graphite, coal and dust continuously falls within is house and is unbearable. Today's public hearing is illegal. He states if permission is granted to the company for expansion and if people die will government official will be responsible. He blamed the official for keeping the public hungry and thirsty for so long. He opposed to the project. |
| Pradeep Gauns | He states that he is a Resident of Navelim and employee of vedanta. His house is located 500 mtrs from Vedanta Company. He says every issue has two sides good and bad. He says the issue of pollution by the company is one side of the issue. He agrees the company causes pollution. However, this is not a continuous issue. He says that company acts on complaints of pollution. He states that the company has taken lot of measures to control pollution. He states that the company has done a lot of CSR activity. He states that if the company gives direct employment and controls the pollution. He supports the project. |
| Shivanand Vithal Naik | He states that he's Resident of Maina Village. He opposed the establishment and operation of this company since 2002.He does supply of milk. He says company operation has caused serious health hazards to the people. He says the company has polluted water source in the village. He opposes the project. |
| Narayan S | He submits that GSPCB has illegal public hearing without |

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| Gauns | consent of the owner. He states that existing plant causes pollution an exercise of graphite and coal dust. Hence the plant should not be allowed to expand. GSPCB should take action against the company of pollution. He opposed to the project. |
| Vishnu V. Naik | Explosion by Vedanta Company has caused changed to is house. Company has taken no action. Water sources are polluted due to company operation. He says expansion of the plant will destroy the village. He opposed to the project. |
| Pratik Naik | Every year due to heavy rain his house is flooded due to company in activities. He says, if the company couldn't control flooding, will it be able to control pollution he questioned. He opposed to the project. |
| Hemant Bharat Naik | He opposes expansion of the plant as the current plant is causing excess pollution |
| Ashok Vithal Naik | He stated that factory is 20mtrs from his house. He suffers from Noise pollution continuously due to operation of the factory. He fully opposes of the expansion of the factory. He seeks as immediate sites inspection of is house to confirm the noise pollution. He states that he and is family is suffering from skin rashes due to pollution caused by the company. He fully opposes plant expansion. |
| Mayuri Mahadev Gawas | The GSPCB should have information of the amount of pollution by the company. The GSPCB has done no owner survey for the Public Hearing. Awareness at the local level and at village level should have been done regarding the project. She states that she strongly opposes the expansion of the project. |
| Kushali Naik | He demands the GSPCB and collector should inspect the village. He objects to the expansion of the project. He has submitted his written objection to the expansion of the project to the collector and the village panchayat. He opposed to the project. |
| Ranjit V. Gawas | not spoken |
| Rohit R. Gawas | not spoken |
| Pundalik T. Gawas | not spoken |

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| Pritesh N. Gawas | not spoken |
| Nanda Gawas | She requested the GSPCB to set up a local office to keep track of the amount of pollution caused by the Company. |
| Govind Gawas | He states that the GSPCB is not able to control the existing pollution caused by the company yet is conducting the Public Hearing / or expansion of the Company. The Public hearing is conducted illegally. He states that the GSPCB does not care for the local people but cares for the company. He states that Vedanta is an irresponsible company. He states that some people at the public hearing are forced to support the Public Hearing on account of being employed by the company. He objects to the expansion of the project. |
| Viraj Shivnath Gauns | Not spoken |
| Sidharth Gawas | Not spoken |
| Pritesh Deelip Gauns | He opposes expansion by company. He states that the company is causing dust pollution in Navelim Village. He states that expansion will destroy the village totally .He states that the company is red category and should be located 10 kilometers away from the village but is situated less than 200 mtrs from the village. He opposed to the project. |
| Kamlakant Gauns | Not spoken |
| Deelip Gauns | Not spoken |
| Laxman Gauns | He stated that public hearing is illegal .He opposes the company expansion. He states GSPCB is pollution promotion Board. Company started an expansion of Amona project in 2008. In 2009 EC for the project was given by the MoEF without public hearing as it was stated that the company was in an industrial area. However there is no public hearing for industrial area in Navelim area. He opposed to the project. |
| Shivnath Gauns | Not spoken |
| Minala Manohar Gauns | Not spoken |
| Suhas Minikar | Not spoken |
| Dharmesh | Not spoken |

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| Saglani | |
| Shubham Gauns | Not spoken |
| Premanand Gauns | Not spoken |
| Viraj Madhurkar Naik | He states that he has a full story of 400 pages and requested to give 5 minutes to give video presentation and 5 minutes to speak. He states that plant is totally illegal and as a result Ramchandra Naik filed a petition before NGT and NGT has directed that MoEF should submit a report on the issue of expansion of the plant. MoEF had come and given report. Mr Pravin Phadke and Mr Viraj Naik had intervene MOEF had given reports that this is not new Plant. The Blast furnace III the MoEF states that it looks like a different unit just because at road in between which they said it was an industrial road. Further the MoEF tsaid that the plant is owned by the same management and same owner that's the reason he called it same unit of BF I and BF II. Further he also stated that the water from the plant is directly comes inot the fields, river and with that water slag and saturated graphite particale settles in the fields and lakes thereby loosing the fertility of those lands. Pollution Control Board also stated that there is no presence of graphite. In Writ Petition No. 243/2008, Board has filed affidavit wherein they have mention that there is presence of graphite particulate matters. It is stated that shine particulates were also present in temples, houses an nearby places. He stated that he has of photo/Video of graphite and black dust which he can show to the public hearing if the collector permits. He stated that the Writ Petition No.881/17 is pending before the hon'ble high court with regard to graphite pollution by the Vedanta. He also raised the questions why he should face the pollution because only few villagers are getting employment in Sesa Goa and now Sesa Goa has promised 50 jobs in proposed plant and it will destroy 30 villages. This present plant is proposed on mountains and all water is presently coming in the villages. We have 4 times cancelled this public hearing. This hearing is done by the authorities to only to support the Vedanta and am against the plant. Public hearing is for the benefit of the company that to during covid-19 only to favour Vedanta. Public hearing is conducted in the property of Pratap Gauns without any permissions which itself |

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| | is illegal. He states that Mr. Pratap Gauns had stated that he will file the case against trespassers if his place is not vacated as a reason public went from the public hearing. He said the said hearing stands unsuccessful. He opposed to the project. |
| Saiesh P Naik | He states that the company has installed a Yellow colour pipe line installed for processing gas. The gas has no smell but harmful. It has an alarm system, if the gas out put increases and the alarm rings which they control immediately. He states that it the gas leaks there will be a blasts all will die. He opposed the expansion. |
| Arjun Malik | Not spoken |
| Laxmikant Gauns | Not spoken |
| Sharad Dhaktu Naik | He states that he was Ex worker of the plant. He states that when the company realises GSPCB is coming for site inspection they keep the factory in good condition. He states that some one from GSPCB informs the company officials regarding the said inspection. He opposed to the project. |
| Manguirish Gauns | Not spoken |
| Milind Gauns | Public hearing is mismanaged. As public hearing conduct was delayed lot of people left the venue .He request the MS of GSPCB to conduct a surprise site inspection of the village to see the pollution being caused by the unit. He further states that the companies present operation is causing air and water pollution and hence the plant should not be allowed to expand its activities. He states that the local people should approach the Chief Minister to inform him the regarding their opposition to the plant. He opposed to the project. |
| Pramod Narvekar | He stated that he is a resident of Surla village. He is a contract worker at Sesa. He opposes expansion of the project. He states that the water of Surla water bodies are polluted due to company's operation. He states that GSPCB and Biodiversity Board has not taken cognisance of his complaints. People also suffer from health impacts due to pollution caused by the company activities. He requests the Board to conduct site inspection of his village to verify the impact of the pollution by the company. GSPCB is not acting to control pollution. |

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| Pratik Naik. | He states that he is the resident of Usgao village. He states that the operation of the plant causes pollution and affects the school children due to smell. He states that the plant cannot control pollution at existing level, how will it control pollution after expansion. The villagers had come to speak and due to the faulty procedures of the public hearing they could not speak and had to go back. He opposed to the project. |
| Mahendra Shirodkar | He states that he is a resident of Surla village and he states that the existing plant is causing pollution in the village and the hearing should be done at a village level. Major greeneries have vanished and he stated that in the future whatever greenery remaining will also vanish. The GSPCB should have done a village wise presentation of the project. The company has employed only 500 employees and in return they have destructed the whole village due to continuous pollution. The Surla Gram Sabha had passed a Resolution objecting to the said project. He states that the mechanism of the GSPCB has to be investigated as to the regards to its functioning. He opposed to the project. |
| Ramchandra Waman Naik | He states that he is a resident of Navelim and is a dairy farmer. He states that in their area there is a lake which was beautiful and now the condition is very bad. The water is become salty as per the report of the Pollution Control Board there is pollution of the same. He approached the Mamlatdar with the matter and requested to stop compensation and rectify the fields so that they can start the agriculture for their next generation and the company is supplying drinking water with tankers. He stopped the construction of the compound wall and objected to the expansion.<br>They have send the objection letter to the Chief Minister and there was objections in the Gram Sabha regarding the project. He states that his family can't eat the produce of the fields since there are spoiled. He states that he went to the High Court and the High Court decided against them and hence they went to the Supreme Court and then to NGT. Now the MOEF has decided in their favour. NOCs are given to the project illegally without taking any resolution by the village Panchayat. He states that he wants agriculture and good health of his family and hence objects to this expansion. |

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| Anil Gawas | He states that the registration done by the GSPCB is totally illegally and this public hearing conducted in an illegal manner and the public is not given enough opportunity to speak . He states that the company started the beneficiation plant without conducting the public hearing. By going ahead with the public hearing the authorities are only diverting the mind of the people and favoring the company. If there is existing pollution caused how permissions are granted for expansion. He objected to the project due to ill health of the people. There is a lot of graphite and slag and people suffer from the diseases like cancer etc. The health of the women deteriorating due to the said pollution caused by the company. He opposed to the project. |
| Chandrakant Ghadi | He stated that the expansion proposed by the company will destroy the village. The present operation of the company is causing uncontrollable pollution. He requests GSPCB not to just grant permission for expansion but verify the pollution. However, non Goans companies are looting Goa. He states that the company releasing carbon monoxide gas in the vicinity. He strongly opposes the expansion of the project. |
| Shivaraj Gauns | He states that the existing plant is already causing air and water pollution and this expansion project will increase the pollution level in the vicinity. He states that his business is with Vedanta but still oppose the plant. He encounters carbon monoxide gas and if it is inhaled it causes death. He strongly opposes the project. |
| Harshada Gauns | As per the SOP for the Public hearing, 100 no.of participants were to be maintained, however there are more than 100 participants present for the hearing. Biodiversity Committee of Navelim village was not conducted while preparing the EIA Report. She seeks details from Vedanta regarding future employment to the local villagers. Biodiversity Management is not being done by the Company. She accused the company management for emotionally blackmailing her. He opposed to the project. |

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## Publicity of Environmental Public Hearing

The GSPCB issued public notices in the newspapers namely O Heraldo (English), , GoanVarta (Marathi), Business Standards (Western Edition) (English), BhangarBhuim (Konkani). Informing the general public regarding the date, time venue, submissions of objections, suggestions, views, placement of EIA reports for reference, etc. GSPCB issued advertisement on local Television/radio channels continuously for 2 days informing general public of the Public Hearing. The local Authorities such as Village Panchayats and Municipalities was requested to give vide publicity of the Public Hearing within their Jurisdiction. The Publicity given is adequate. It was also informed to affected person to participate through virtual digital hearing should submit email address name and mobile number to GSPCB. The link for virtual hearing was sent on their email ID by the project proponent.

Chairman/Additional Collector requested the people present that if they so desire they may file their written objection/suggestion/views by 22nd March 2021 to the GSPCB. The same will be part of the hearing and accordingly it would be forwarded to the concerned Regulatory Authority.

The recorded minutes were accordingly read out to the public in English and Konkani and subsequently after receiving suggestions and as agreed were signed by Additional Collector III Shri. Mahadev J. Araundekar and Dr. Shamila Monteiro, Member Secretary, GSPCB.

A total of 309 virtual and physical participants which have registered with the Board were present for the public hearing.
A total of 138 speakers were registered with the Board.
A total number of 126 written objections received by the Board as on 14/03/2021.

A total of 1871 supporting letters representations have been received.
On this 14th day of March, 2021.

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| 14.03<br>Shri. Mahadev J. Araundekar<br>Additional Collector III , North | Dr. Shamila Monteiro,<br>Member Secretary, GSPCB |

**Proceedings of the Environmental Public Hearing held on 21/03/2021 from 10.30 am to 22/03/2021 06.30 am at Village Amona, Government High School, Amona Ground.**

## In respect of:

**"Proposed Up-gradation of Blast Furnaces (BF) to enhance the production capacity of BF- 1 & 2 from 2,92,000 TPA to 3,50,000 TPA, BF-3 from 5,40,000 TPA to 6,50,000 TPA, setting up of Additional Oxygen Plant, Installation of Ductile Iron Pipe Plant of 3,00,000 TPA capacity, 4 additional Met Coke ovens, setting up of Fe-Si Plant of 5,000 TPA capacity at Amona and Navelim Villages, Bicholim Taluka, North Goa District, Goa", by M/s. Vedanta Ltd.**

This Public Hearing is conducted as per the revised EIA Notification dated 14/09/2006 (as amended), Shri. Gopal Parsekar Addl. Collector I. welcomed the public present for the Environmental Public hearing, and requested the public present to express their views/objections/suggestions if any, after the Project Proponent gives its presentation and the same will be recorded and forwarded to the Concerned Regulatory Authority, for processing the application regarding Environmental Clearance.

The Representatives of the Project Proponent have thereafter made a Power Point presentation concerning the project by explaining the contests thereof in Konkani/English language.

Thereafter, the Chairman/ Collector called upon those present to express their views / suggestion/ objection.

Accordingly, the following individuals have raised the issues/gave suggestions which are as under.

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| 1 | **Shri. Sadanand Gawas:**<br>He stated that the plant of Vedanta in Amona should provide employment to the unemployed youth of the village. He stated that the company should control pollution caused due to the operation of the unit. He expressed his support to the proposed project. |
| 2 | **Shri. Babaji P. Sinari**<br>He has stated that he is a resident of Amona for the last 50 years. He stated that the progress of Amona is due to Sesa industries Govt. cannot give jobs, Vedanta has given employment directly and indirectly. He stated that he supports the plant. Vedanta should give employment, in improve medical facilities, Amona and neighbouring villages. |
| 3. | **Shri. Kashinath T. Mhato**<br>He is an employer of the Sesa Goa company he stated that whatever graphite and any other pollution caused in the village should be controlled by company deploying a good machinery .He requested Vedanta company to give permanent jobs to villagers. He is supporting the plant. |

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| 4 | **Smt. Saliya Gawas:**<br>She states that she is the Sarpanch of Village Panchayat of Amona. She states that the pollution caused by the unit Vedanta should be controlled by installation of Pollution control equipments. She stated that the plant of Vedanta in Amona should provide employment to the unemployed youth of the village. She requested the company to provide a special doctor to the health centre set by them. She request the company to increase CSR activities in the village. He expressed her support to the proposed project. |
| 5 | **Shri. Chandrakant Gawas**<br>He has stated that he has worked in Vedanta Company for 25 years and has made progress and support the company. |
| 6 | **Shri. Sanjay Parab:**<br>He states that he is working in Sesa Goa for past 25 yrs. He states that the company is trying to control pollution caused by the plant. He states that the company will ensure that the unemployed youth of the village will get employment. He supports the proposed project. |
| 7 | **Ramesh Khandeparkar**<br>He stated that he is working for 31 years in Sesa Goa Company. He stated that there was one barge loading facility. This Blast furnace started first and later in 1992. Pig Iron Plant started operation. People were not in opposition. People have given land to the company. Union Minister Santosh Mohan Das stated that this plant will bring development not only State Capital Development but also for Central Management. Now new owner has come. The company does not care for those people who had given land. The company should support the people. He stated that Maina Navelim village is most polluted village due to mining there is air and water pollution. The water bodies have become saline and percolated into the ground water. The waste water goes into the water. Mr. S Gawas was selling milk from 150 cows now he is fighting because he does not get fodder for the cows. The company should take care of such problems of the people. He stated that he is supporting the plant after ensuring that environment is protected by the company. |
| 8 | **Prakash Mukund Bhagat**<br>He stated that we gave permission to build plant to Sesa. This was a mistake of Amonkars. Old people are suffering. He stated that he will tell the Pollution Control Board to come and check the pollution in his house. All the villagers should support and close the plant of Sesa Industries. |
| 9 | **Anand Ghadi**<br>He stated that many people wants to speak on dias. Around 400 people are waiting to speak .There are varcos types of people staying in the villages .As per his opinion employing company is providing direct and indirect employment to the people. Hence he is supporting the plant. |
| 10 | Shyam Fadte - Absent |
| 11 | Sunil Naik - Absent |
| 12 | Shyam Parab - Absent |
| 13 | Viraj Bakre<br>He submits that he is opposing the existing project of the Vedanta company as well as the proposed expansion. He states that the GSPCB has confirmed pollution being caused by the company yet it is |

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| | encouraging the expansion of the company. He objects the use of plastic water bottles by the staff present as under SWM rules, plastic bottles should not be used. The company is causing pollution in the village. The High court is seized of matters files by Pravir Fadte and others. The pollution being caused by the company. The GSPCB has confirmed pollution by the Company and has issued directions to the company that is not complied till date. GSPCB has confirmed to the Hon'ble High Court that graphite is being emitted in the air by the Company. He states the GSPCB is required to ensure pollution control measures are operated effectively. All measures ought to be implemented by the company to control air pollution however failed. He states that the Presentation by the Company is mere propaganda. He states that all air pollution control measures installed by the company has failed. He states that the company should stop the existing operation and stop causing pollution. The unit is a red category project and should not be located in residential areas. His in-laws are residing in the area where the company plant is located but have relocated to Khandola on account of pollution caused by the company. He stated that the employment generated by the company is limited though impact on the villages by the company due to pollution is huge and covers a large area. He stated that the company has caused pollution of Air , water flora and fauna of the area is adversely affected and the health of the local residents is also affected. He States that the GSPCB only grants permissions to such polluting units and cannot control pollution. He stated that the GSPCB is doing nothing to control pollution being caused by the company. He states that there is existing water shortage and if company is permitted to expand , water shortage will be severe. The surrounding villagers will be affected. He stated that the Vedanta company has taken no steps to control water shortages nor providing water to the villages. He states that the Vedanta company has abandoned all its responsibilities during covid pandemic and continued to operate during the pandemic. He stated that the public and NGOs should have been permitted to share the dias . He states that the present Public Hearing is a farce as if the plant has already carried out expansion than there is no use of conducting public hearing and the GSPCB is also responsible for the same. He states that there is no proper study on the operation of the oxygen plant and it should not be permitted. He states that all emissions and by products from the proposed plant and existing units are causing pollution. He states that the labour contractor of the company do not follow law and in the vicinity of his residence already 100 labour are staying in an under construction bunglow. He states that believing in the company the locals had permitted the installation of earlier units however the company has deceived them and caused pollution in the villages affecting the villagers health, local plants flora and fauna. He strongly opposes the further expansion of the company as they cannot control the pollution caused by the existing plants. |
| 14 | Satyavan Mhato - Absent |
| 15 | Santosh A. Parab<br>He has stated that he is a resident of Khandola and Presidentof Devlay colony, where 280 families stay. We receive complaints regarding blackspots soot on residents, vehicles, garden. He stated that they have given joint complaint to GSPCB and Central Pollution Control Board. The Board has given report stating that there are exceeding limits. We |

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| | have come to understand that when Board carry out monitoring the analysis report indicates within permissible limits. Vedanta had informed that they will take appropriate action, however till date no measures are taken. Now the company is expanding without taking measures for old plant. Why workers are involved in Public Hearing. Tivrem-Orgao Marcel Panchayat has taken resolution to oppose the plant. Sarpanch also opposed the plant. When I stayed 6-7 kms away from the plant. I get pollution , why they are not controlling pollution. PCB should come up to investigate and people should complaint. Please show the source of graphite . We have visited home and we found soot in the resident. I strongly oppose for existing unit and new plant as well as expansion. This opposition is from all villages. |
| 16 | Krishnanand Gaonkar<br>He is the Resident of Betki Kandola and a senior citizen. He raises the issue of pollution caused by the company at the Betki Kandola Gram Sabha. He states that if the plant already carried out expansion of the Blast furnace than why this Public Hearing is being conducted. He questioned the GSPCB on this aspects and said that the senior citizens are being harassed. He states that his health is being affected from 2012 due to the air pollution caused by the company. He states that the doctor has told him that his health is affected due to the pollution in the air. He states that the present public hearing is a mockery. He demand the hearing being closed. He states that there is no food and water is provided to the participants/public. He demands the pollution caused by the existing plant be controlled first and than only can the expansion be considered. He states his strong objection to the proposed project. |
| 17 | Narayan N. Gawas<br>He stated that he is working in Sesa Goa Plant and don't oppose the plant. |
| 18 | **Anant S. Gawas**<br>He is the resident of Amona village. I am a resident for past 46 years. Many people has raised issues regarding pollution. The Pollution Control Board which is there to control pollution and have to carry out periodic monitoring. There are requirement of development of the villages. Employment has to be provided to the locals. Company should carry out health camp. However does not given treatment. So requested to give treatment. Senior citizen desk should be formed. They should employ a girl or boy to help the senior citizen in their ward. |
| 19 | **Narendra Sinari**<br>He states that the Vedanta Company has always supported the people and he support the expansion. |
| 20 | **Yogesh L. Naik**<br>He stated that the he is a resident of Amona since birth. Company has brought a new projects what village will benefit. He stated that they should give employment to villagers. Health camp to be conducted and give free medicines. If company carry out the above they don't have any objections. |
| 21 | **Babuli Mhato**<br>He states that he support the project. |
| 22 | **Bhanudas Tari** - Absent |

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| 23 | **Mr.Paresh Fadte**<br>He stated that many people are yelling that no employment is generated by the company .he requested the company that Amona people may be given the first preference .Many people are yelling that company has not taken any step for betterment of the village. But being an Ex Sarpanch he stated that the present venue which is a playground done by the company .He stated that Amona village is in good condition due to company as compared to mine effected area like Sanvordem , Sanguem , Virdi etc. He further stated that if company gets good equipment and pollution control Board checks those equipment's to control the pollution than he will support the plant. |
| 24 | **Ramdas K. Sawant**<br>He states that he is a resident of Betalwada, Amona. He states that the pollution caused by the company operation. He states that the company controls pollution and should give more employment to the locals. He states that he support the project |
| 25 | **Sandesh Bhagat**<br>He stated that he is Amona resident. The present plant causes pollution and expansion of the plant will increase the pollution level. Hence I oppose the plant |
| 26 | **Mr. Sagar K. Fadte**<br>He stated that GSPCB should have been verified the existing plant on pollution aspects as first instance. New technology must be used to solve the pollution problem. Earlier few employees were removed from the job and those posts are not yet filled .He requested the company to fill those posts on urgent basis. At present employment are given through sub-contractors and therefore they are not given the salary on time. He also requested that the jobs should be directly given through company. He stated that he is supporting company only if direct employment is given. |
| 27 | **Mukund B. Phadte**<br>He stated that he is 43 years old. He is a resident of Amona. Sesa does pollution. The fields are polluted. The well water was used for the temple. The wells have dried. He objects the plant and we don't stay to close the unit as our villagers are working. PCB is responsible for this pollution. The plant has raped the village. |
| 28 | **Sanghvi Fadte**<br>She States that operation of the company causes pollution. She states that the company should control pollution by installation of pollution control equipment. She extended support to the project. |
| 29 | **Mr.Sunil Sinari**<br>Company started production from 1991 and day by day production is increasing and also pollution is increasing .At ancient times our farm were golden we use to get high quality of crops. Now the production is declined but company is earning in crores but nothing is given to the villager's .Only company is giving scholarship to the schools for around 500O0 to 100000. The company has raised its full empire with political connections. If company is given 1 crore to the villagers they would never |

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| | depend on the government .He raised a question to the company whether they are ready to give 1 crore to the villagers? He requested to the collector to see this pedal it would have been golden or silver if the company had given something to the villager's. He requested the company to run the existing plant properly and control the pollution, and not to show them future dreams. He further stated that company is only developing and villagers are suffering. He raised a question to the GSPCB whether they are aware of which the plant is coming that land belongs to whom. He stated that the lease given to the company is already expired and there is a dispute going between them and how the GSPCB can conduct the public hearing. This matter is subjudice before the court than it won't become the contempt of the court he raised a question. He also stated that GSPCB is bypassing the owner and conducting this hearing without listening to the owner. 30% of the people are dependent on the company and what about 70 % people who are suffering. He warned authority and project proponent not to underestimate people and also not to take people for granted. This is total insult to the judiciary. He requested the authority to suspend the hearing by giving representation/letter. He stated that he has no objection for the existing plant, however strongly opposes the new expansion of the plant. |
| 30 | **Krishna Gauns;**<br>He states that he is the Panch of Village Panchayat of Amona. He states that w.r.t. pollution, the same is not controlled. He states that the GSPCB should explain to the public as to how the company is going to control pollution. He states that his village only has semi-skilled and skilled workers employed in the company. He questioned as to why educated youth of the village are not given good jobs in the company. He demands that the company should pay fair compensation to the agriculturist of the village. He states that the company should improve health infrastructure in the village. He states that the company should employ locals directly in the factory. He states that as a representative of the people, he is responsible to speak on behalf of the people. He states that the company should not be stopped as locals employed will suffer. He demanded that information on the views raised by him should be given. He states that he does not object to the public hearing but insists that pollution should be controlled. |
| 31 | **Vijesh Sawant**<br>He stated that there is 100% pollution in the plant. Goa State Pollution Control Board should ensure control of the pollution level. He stated that if employment is provided then he supports the plant |
| 32 | **Shambha T. Gawas** - Absent |
| 33 | **Chandrakant Sinari Gaonkar**- Absent |
| 34 | **Deepak D. Fondekar;**<br>He states that the Public Hearing is being held on account of expansion of existing plant. He states that w.r.t. issue of direct employment, Vedanta does not consider educated youth of the village of Amona. He states that the TOR indicate that required permission are not availed. He seeks to know from the GSPCB the meaning of Control. He states that the GSPCB |

has categorised the unit as "Red Zone" then why is this Public Hearing is being held. He states that the GSPCB has failed to comply with its duties. He states that the authorities including the collector to visit the areas. He states that once the expansion of the plant is allowed the village will be destroyed. He states that the GSPCB is responsible for this as they are conducting the Public Hearing. He states that GSPCB should have done a survey of the existing plant before conducting the present public hearing. He states that No one is questioning the GSPCB when granting the permissions to the company. He states that the village panchayat should object to the grant of permission by the GSPCB. The Village Panchayat should also insist on the company for providing employment to the local youth. He states that graphite emitted by the plant is spread all over the villagers. He states that adverse health effects are being experienced by the local villages. He objects to sesa representative that they are required to answer all the query all the people. He states that as far as employment is concerned , amona has a population of 3500, however only 150-200 people are employed in the company, however 90% of the village population is suffering from the pollution caused by the unit. He objects to the employees of the company supporting the unit as they are not thinking of the remaining population of the village. He requested the GSPCB to explain the role of GSPCB in the control of pollution by the company? He seeks to know Why EIA study is not done by the GSPCB. He states that as tax payers salary of the GSPCB officials is paid by public and as such the GSPCB can not ask the public to do his work in the public hearing. He seeks a reply from sesa goa with respect to the locals of amona working for 35 yrs. He states that in his ward there are 5 engineers who are not being employed in the company. He states that that company only appoints outsiders. He states that the proposed project will not create any major employment but will employ just 50 persons. He states that the company will use 80lakh litres of water and will cause water scarcity. He stated that with respect to the issue of CSR, only 2% of profit share must be given to the affected peple of amona. He demands an answer from the representative of the company. He states that the sesa company should not underestimate the people of amona. He compares the sesa company to colonists and states that they are diverting the public of the villages by threatening the employees. He states that if the pollution by the sesa company is allowed to continue the future generation will be destroyed. He demands the GSPCB to come for an immediate site inspection to verify graphite pollution in the village. He accuses the GSPCB of being in collusion with the company. He states that the company should provide an ambulance to the village. He states that first pollution from the existing plant should be stopped and then only can the expansion be considered. He states that Goa population of 15lakh has appointed all government officials and police. He says that these officials should follow ethical code and do their duty and avoid curses of people. He accuses all government officials of collusion with the company. He demands that government officials should justify their salaries paid from public funds. He states that in 2007 the GSPCB has shown the company as a red category. Hence a question as to the need for GSPCB to permit expansion of the unit. He demands a reply to his query from GSPCB representatives. He states that as per the Audit report of the GSPCB for 2019-2020, the AQI of amona has exceeded in 2018, 2019 and 2020. He states the website of GSPCB is not peoples friendly. He requests all

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| | authority to control pollution of the existing plant in all facts and only after confirming the same another public hearing should be held. He demands a white paper on the total no of people employed in the company from the authorities. He strongly objects to the proposed plant. |
| 35 | **Prashant K. Sinari** - Absent |
| 36 | **Mahendra Sawant** - Absent |
| 37 | **Devendra Gawas**- Absent |
| 38 | **Santosh K. Gaonkar**- Absent |
| 39 | **Dinesh S. Gaude**<br>He stated that many people are saying pollution is caused and pollution control Board is also accepting that but no one is speaking what measures are taken to control the pollution. They had approached Board by sending letters/complaints and that no response is received from the Board for those letters/complaints. He stated that Pollution Control Board should check the water pollution and noise pollution and graphite emission. He is a farmer by profession and he stated that his farm production is reduced to 60 % to 70 %.he requested to the authority the soil samples may be taken in the laboratory to check the quality of the soil. Monitoring process conducted by the Board is very bad in condition. He gave an example of monitoring machinery which is installed by GSPCB by taking light from the temple committee premises without any permission and that machine was installed in negligent way on the playground of the children and without any supervision. He questioned the GSPCB what action they have taken on pollution part. He stated that there is no crop in his farm. So he is 100% opposing extension of the plant. Further he stated that Betki Khandola was not taken into consideration for any benefit. Lastly he concluded requesting GSPCB to control pollution. |
| 40 | **Ramakant P. Naik-Absent** |
| 41 | **Kashinath Rupo Gaude**<br>He stated that he is resident of Khandola. He states that the existing plant causes pollution. Fields are almost destroyed. Vegetable are not growing properly. I oppose the plant. |
| 42 | **Ramesh Sinari- spoken at sr. no.77** |
| 43 | **Narayan R. Sawant**<br>He stated that he is the Amona Ex-Sarpanch and Panch. He stated that he was elected in 2007 and working against pollution from 2007. He states that his brother working in the company was called in the head office since he was working against pollution, his brother said that since he works efficiently in the company 3 years back. His brother was told to take VRS as he was complaining against pollution. Company pressurise the workers. He oppose the pollution. People have got scared and supported the company. PCB is not working properly. If the young ones are troubled like this, then the company will suffer. Old people has given support to company as they do not know that pollution will take place. He critise pollution control Board as they do not function effciently. We come for Public hearing as media will say there is no opposition. For 30 years we are suffering due to pollution. He specifically stated that ladies when sweep the ladies and children breathe in the graphite pollution. Without permission expansion has taken place. There is God so please do not take decision for the plant. He opposes the plant. |

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| 44 | **Atmaram S. Parab**<br>He opposes this plant |
| 45 | **Sanjay Narvekar**<br>I am a resident of Amona. He states that he opposes the expansion of Sesa. He stated that for many years Sesa is polluting due to graphite particle. He stated that his mother's death due to lung cancer due to graphite particle. He requested Pollution Control Board that the comments of the workers of Sesa should be deleted from hearing. He states that the workers are presurrised to speak in support. |
| 46 | **Surya Sinari**<br>He stated that he is a resident of Amona and goankar of Devasthan Sasthan Communidade Mahazan. Sesa was established in communida land.. He stated that he has submitted application to the company. They have not considered. For 32 years due to pollution. His full family is suffering. He states that he will also die due to pollution. He states that he ask the Vedanta officials that he is not getting employed. He stated that his children also asked that how long pollution will be there. Whom should I approach. Why was I not considered. Graphite is polluting my houses. He stated that he eats graphite. He stated that while presenting ---- by using banana leaves graphite particles can be seen on the leaf during performing puja. |
| 47 | **Bhikaji S. Sinari** -----Absent |
| 48 | **Yeshwant H. Gawas**<br>He has stated that he has written a letter to the Collector regarding this hearing. He has given the Goa Pollution Control Board because their lease period is over in 2011 in communidade land. The Company is illegal operating in the communidade land. Matter is subjudice in District court and public hearing is conducted. He had made a letter on 08/03/2021 for cancelling the public Hearing. However nothing is done. 10 Crore revenue communidade is losing as Vedanta is not paying rent from 2011 till date. |
| 49 | **Devanand S. Sinari**<br>He stated that he is the villager of Amona village . He has objected for Expansion proposal of up gradation of Blast Furnace to enhance the production capacity of BF1 & BF2 from 292000 TPA to 3500000 TPA, BF3 from 5400000 to 650000 TPA, setting of additional Oxygen Plant , Installation of ductile iron pipe of 300000 TPA capacity , 4 additional Met Coke Ovens , setting up of FE-SI Plant of 5000 TPA capacity at Amona and Navelim village , Bicholim Taluka, North Goa District Goa by Sesa Goa. He thought that the Navelim village cleared the project. He spoke on the up gradation, that if this plant is set up than there will be increase in Air pollution and it will damage our ecology, soil etc. He stated that activity production starts at 10 O'clock and noise is affecting children and old age people. P.M 2.5 and PM 10 , micro meter ,diameter Sulphur Dioxide, Nitrogen Dioxide are causing pollution which local will not understand and Carbon dioxide which is released is harmful for people. He stated that this all will be main pollutants such as iron ore , particles & graphite is released from the tapping of iron. Combustion activities are also harmful for the health. Existing plant Vedanta is causing health pollution in surrounding villages i.e Maina, Betki, Amona etc.by releasing iron ore and graphite particles. He stated that if we visit the nearest temple we will see deposition of graphite particles which is very harmful which are passing through respiratory system and causes health problems. He |

presented banana leaf to (Dr. Shamila Monteiro, Member Secretary, GSPCB) to see graphite particles deposited on the leaf.PM 2.5 fine particles are deposited into lungs, eyes , heart, nose etc. The children who are cycling & playing at that time they are fast breath .He also stated that the shiny graphite particles goes in lungs. NEERI report also stated that presence of this particles will cause cardio vascular diseases. He stated that small children and pregnant women may cause pre matured death. He stated that his children going to KG Shishumandir school, there were shiny particles seen while playing during the intervals so he removed his daughter and shifted her from the earlier school to the new school. He stated that his daughter escaped from pollution only for 8 hours while being away from the village but finally she had to come home and face the same pollution at home. He requested the GSPCB and the public present for the hearing to visit the Mahalaxmi Temple and see the pollution. He stated that he is the direct tax payer of the Government and visited the GSPCB office which is with first class AC in Member Secretaries cabin. Air (Prevention Control of pollution Act 1981) and Environment Protection Act 1986. It mentioned that by products should not be left out by any industry.He is a farmer and he showed the Krishi card and authority and bills and also stated that he is growing, tambdi bhaji, Alsandi,Gadoo ,Mullo etc and graphite is found on that and it goes directly into our stomach not only he but all the people buying and selling the vegetables. He has opposed to the plant since he don't want to spoil his children's life. Marathon cycling is taking place in the village of Amona and graphite particles are going directly into their stomach. He stated that on 6/03/2020 he had given a complaint in GSPCB that Ganesh Shetgaonkar, Chairman of GSPCB should be suspended .Under RTI Act he had requested for information regarding Air pollution. He has mentioned about Dr. Shamila Monteiro only because he had addressed many complaints to her. He had also given complaints to Mamlatdar on 4/12/2019 and subsequently the Deputy collector was requested to submit an action taken report on the same day. He also complaint to PMO on portal dated 09/03/2020 and PMO office had directed the MoEFCC and CPCB has directed the GSPCB to take appropriate action in the matter within 15 days. He stated that 192000 sq mt land of villagers, of which the land lease was expired in 2011 but company has not paid any compensation .He stated that If they had given proper revenue they would have given the land to Government. They had filed the case in the court in this matter w.r.t survey no 42/1 & 43/1.Since he spoke during the hearing he said the collector came to know how the GSPCB is working. He requested god to see into this matter. He also stated that though the company is having lot of money people will die of pollution. He further stated that he will tell his children that since he opposed the project he was given lots of opportunities and tried to bribe. He stated that he got to know from the affidavit submitted by the Member Secretary of GSPCB to the high court which he requested under the RTI Act and that the monitoring will be conducted in the first week of January 2020 and the inspection will be conducted. Further he said that he had requested for information RTI Act that whether any survey or inspection has been conducted or whether any monitoring of graphite particles has conducted in the month of January or February for which the reply was issued saying "no records are available" this is the way Member Secretary works .He stated that pollution Control Board has no humanity . His wife

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| | instructed him not to talk against the GSPCB and threatened that the action will be taken against him. He requested all the authorities to look into the matter seriously and carry out the inspection at his place where he grows the vegetables. He is also afraid that he might get infected with lung cancer with this pollution and the hospital bills will be huge and cannot be paid by him. He concluded opposing for the installation of the plant. |
| 50 | **Navso laxman Naik :**<br>He states he is the resident of Amona Village. He states that Sesa Goa is operating for the past 30 yrs and He supports the project fully. |
| 51 | Maheshwar Thakur.. Absent. |
| 52 | Rupal Sinari—Absent |
| 53 | **Satish Gawas:**<br>He states he is the resident of Navelim Village. He states that the Sesa Goa is operating for the past 30 yrs. He questions as to why the Public Hearing is being held now. He salutes Mr. Pravir Fadte for fighting for the village at his own expense. He appreciates the work of advocate Sagar Dargalkar. He states that he works in the company. He says that the company unit is adjacent to maina village and residential houses . He states that only the local working in the company will support the company as they get a salary. However those not working in the company they get no benefit from the company, they only suffer from pollution he states that the company operation have destroyed fields and agriculture in the area. He states that old villagers had allowed the company in the village for economy development. But this development has benefited only a few. He states that as far as his concern the no of abnormal child have been born in the village. He states that this is due to pollution caused by the company. He states that the company should have financially supported these children. He states that the company should have established a hospital in the village. He states that the company should sanction an old age pension and housewife allowance of Rs.2000 to the villagers. The same schemes should also be sanctioned for widowers. He says the company should do a survey to identify the needs of the people. He states that if the plant is being expanded the existing plant should be 90% non polluting unit. He demands that the company should provide free electricity . He states that the company should have offered to supply mobile phones to needy children. They should also fund schools and anganwadies. He states that the company should supply an Ac and water filters to all the residents of two villages. He states that the collector and GSPCB should get such a survey conducted by the company. He requests the company to do a survey before doing any expansion of the plant. He states that during pumping operations of the company, agricultural produce as reduced and also coconut production. He states that the company should supply coconuts to the villagers. |
| 54 | **Rajesh Amonkar---**<br>He stated that pollution is caused due to Vedanta. Vedanta has installed bag houses. The Company will carry out study in village regarding graphite particle and installed bag houses. He request employment should be given to the locals. See the health of the villagers. If the Company is ready to do this then he support the plant |
| 55 | **Nitin Phadte**-- Absent |
| 56 | **Uddesh S Naik.**<br>He stated that the first preference should have being given to the Senior |

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| | citizen. He stated that Vedanta gave many offers to him, but he objected. Sesa have put up playground but because of pollution we do not send them to play. Survey to be carry out regarding the physically handicapped children born before and after Sesa plant. The people are facing troubles due to Sesa and Pollution Control Board. The teacher told us to study but because of pollution he could not study. However he still managed to study and are working as a banker. When the Sesa plant was not working. Now the people are suffering because of pollution is not addressed by Pollution Control Board. Some people are saying they are supporting. He and his father are doing activity and surviving. He opposes the plant. |
| 57 | **Khemlo Sawant;**<br>He states that he is the resident of Amona Village. He states that the plant is opposite to his resident. He states that he has been fighting against the pollution caused by the Sesa Goa company from 2001. He states agriculture department has given a report that graphite released from the unit is affecting agricultural activities in the fields of the 2 Villages. He states that in 2006, the GSPCB issued notices to the company to control graphite pollution. He states that in 2010, the GSPCB has submitted a report stating that graphite was being emitted from the company and was causing pollution in the village. He states that GSPCB has not taken any action in the matter. He states that GSPCB has given another report stating that graphite is being emitted by the unit in 2020. He states that the GSPCB has also issued SCN to the unit in 2020 that the PM 10 And PM 2.5 levels are beyond limits. He states that without the SCN being disposed off. He questions as to how the present public hearing can be held. He states that the High Court has directed the GSPCB to conduct a legal Public Hearing and not illegal Public Hearing. W.r.t. issue of expansion of the plant at Navelim, hearing on the issue is not yet completed by the MoEF and as such the question as to how public hearing can be held. He states that GSPCB should obtain an affidavit from the Vedanta company regarding CSR activities and pollution control measures that they plan to undertake and install. He states that the company is not spending enough amount of CSR fund as they should. He states that GSPCB should ensure that the company undertakes adequate CSR activities. He seeks that his objections be submitted to the MoEF and he strongly objects the project. |
| 58 | **Praveen D. Blaggan**<br>He states that he opposes the expansion plant. He stated that he has a industry in Honda Industrial Estate and Pollution Control Board has done inspection and stated septic tank pipe is shaking. However Pollution Control Board is not conducting inspection of Sesa Goa to verify the discharge of pollution and whether they have taken permission. Sesa must not taken permission. Employees are spoken for one minute stating that they had no opposition they have stated that Village Amona Navelim should be give money and set up hospital. Plant growth is necessary in industries but within limits, Control pollution and then consider expansion. They had cultivated field, activities and survived before plant came into existence. He stated that future generation will not support us because of this pollution. When he was small he was taught that air travels from land to sea and pollution spread everywhere, He stated that he has to change the minds. he thought Adani and Ambani are there, but now Adani and Ambani are there everywhere in villages. In Amona oysters were available in plenty. Now we are scared to bring as they are |

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| | from Amona. It is almost extinct. He wants to speak regarding air and water. Vedanta showed in presentation that 450 are employed, however EIA states 50. This is discrepancy. Due to pollution the age of people are reduced to 60 years. There are 5 senses. The smell was from Amona.plant which could be identified even by blind folded person .PCB should open the office in Amona. Extension of Oxygen plant is existing in extension plant. Is there are oxygen plant. Are you purchasing oxygen cylinder. Teacher taught constitute of air. Now we know that oxygen is required for purification of lungs. Oxygen is taken in and Co2 is released. Plant takes in CO2 and oxygen is given out. He stated that he has not seen in the plant the areas specified for forest cover, How much forest cover is required when they are using oxygen for air from outside sources. When there is heat of 1200 °C Temperature. The air surrounding will move towards this area . This area will release CO2. What is the balance status of Oxygen. Study is required to be considered. Graphite can be seen scarily of oxygen cannot be seen. He stated that if you are bringing oxygen. Then it will be different case however. If it is sucked form air then studies required. Government has installed pipe line from Sanquelim to Vedanta. However, Government has not given water to life saving drugs. Single Vedanta Plant will consume water required for 2 lakh population. TCP has put condition to recycle waste water for residential area . Why 30 to 40 MLD will be given to Vedanta. 3rd World War will be due to water. Vedanta should be told to use water judicially. Scientist identified graphite particle in fish. Water is released in river Mandovi. Why Vedanta is not recycling water in the plant. Vednata will manufacture ductile pipes, Pipes are to be transported. Hence roads will be widened by demolishing the houses for infrastructure. We don't want the red zone plant in residential area. He requested officials to stay in village Amona to know the reality. The officials gives report that they should do it consciously. |
| 59 | **Sanket Kamat**—Absent |
| 60 | **Ashok V. Naik**<br>He requested collector to visit his place along with Vedanta to see pollution. He stated that during monsoon the compound which is at 10mts from his residence had collapsed which has lead to flooding of his house and essentials from his house had been washed away and when he agitated against it, false complaint was filed as he demanded a compensation for the loss caused. It may be noted that due to noise pollution the walls have developed cracks. Therefore he opposed the plant. Navnath Vadte is totally a liar. He received summons from court due to Navnath Vadte, he had never received in my life any summons from police also he got scared ,than he enquired about the same and he came to know that Mr. Navnath Phadte had made a complaint against him that he had pelted a stone on company people who had come to see his place. So he is opposing this plant. He further stated that he had given 100 complaints to GSPCB but GSPCB has not acted on the same. He further stated he don't want expansion so he is opposing this plant |
| 61 | **Mr.Vithal Naik**<br>He raised following preliminary objection. The Collector stated that the public hearing would be completed by 7.00 pm. He stated that public hearing is the only opportunity provided to people to express their views on the project. The collector should clarify w.r.t office memorandum that if more than 100 people are present for the hearing and if they can't |

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| | conclude on the same day than it should be continued on the next day or the authority should take decision that all the speakers should conclude on the same day. He stated that the Office memorandum on record if Collector is not allowing to speak for more than 5 minutes it will violate the EIA notification. Clarification also sought from Collector regarding notification dated 14/09/2006, secondly he also submitted that the hearing is in breach of Ministry of Home circular of COVID .He also stated that Public hearing is conducted without social distancing, no thermal checking .As per the notification thermal checking of the public present for the public hearing chair should be arranged by maintaining social distancing which is not done. He stated at present if any COVID +ve person is present for the hearing than all the public will be tested positive. He raised the question whether the Collector will take the responsibility of peoples health issues. Management has threatened all the village people that's why people supporting and speaking for the company , if they speak against the company they will lose their job. All high posts are given to the outsiders and the village people are given jobs at furnace which is highly polluted. He requested the villager's not to speak against the people by supporting the company. He also raised a question why they are destroying their children's life by supporting the plant. Most of the employment are given on the contract basis that too kept under the sub-contractor and no villagers are given permanent jobs. He requested people not to come under pressure of the company. He is opposing this plant because the whole surrounding is polluted due to the company .By providing employment to few they will destroy the life of 200 people .Therefore he is not supporting this plant .As evidence he gave leafs on which graphite particles are deposited the authority may take that on record. These graphite particles which are suspended in the surrounding which we are daily consuming through respiratory system and which is present in our stomach are causing many diseases the authority may please take note of that no doctors are ready to give certificates since company is managing the doctors by giving bribe. This plant which is coming is 50 mts away from the village and these people are staying from long time before this company started. The pollution control Board should look into NGT guidelines and then decide whether the permission should be given to this project or not. He requested the authority that this project should not come. As per EIA notification the company should do first health assessment of all villagers and all the health reports of the villagers should be published on white paper so public should know what kind of diseases they are suffering from. He is sure that the company will not follow the same procedure since they are scared that everyone will know that villagers are suffering. Company stated that 80 lakh litres of water will be taken from village and which is coming from Mhadei river. If this water is taken by the company than in future no enough water will be left for the villager's. So he requested authority to do water assessment as per EIA notification since the villagers have no faith in company. They have expectations from villagers and PCB. Further he requested Amona people who are present for the hearing to speak on their point by taking their own time since there is no time limit as per notification. He objected the project. |
| 62 | **Pandurang K. Naik**<br>He States that he is a resident of Dhakul Maina. He states that he is an agriculturalist. He states that the GSPCB has wasted 2 Sundays |

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| | conducting the Public Hearing. He submitted a photograph of the lake in his village which is destroyed due to the operation of the company. He states that due to the pollution of the unit the cattles are affected. He states that he made many complaints to the GSPCB but the GSPCB has not taken action. He requests the authority to do a site inspection of the village to see the pollution caused by the unit. He submits his strong opposition to the expansion of the proposed project. |
| 63 | **Sahil S. Naik** - Absent |
| 64 | **Harichandra P. Sinari**<br>He states that he congratulated Goa State Pollution Control Board and collected for conducting public hearing. The matter of public hearing is known now after all the speakers have given their say. This is festivities in the village hence trey are few people for public hearing and if all there were no festivities. They the shed would not be sufficient. He opposes the plant. It is very strange that people have supported have not given documentary evidence. All opposition have given documentary evidence. The proponent plant is causing pollution; however, it is difficult to stay in village. Sesa would have also settled outside due to pollution. This is due to noise, air, water& dour pollution, Pollution is carried due to graphite particle. The particulars is spread everywhere on food. Houses, clothes etc. He further states that he surprised that the Red Category projects are in residential area and hence approval are granted to them. There should be thought on allowing such projects. In residential areas. There are many health problem in the villages due pollution, If we allow this expansion it will difficult to stay in the village. Company says that it is taken measures to control pollution. The Company may clarify regarding the same. Vedanta has exploited his own workers to give support to this expansion. The comments of the workers should not be considered. They are blackmailed to give support. If there is emergency that takes place due to the operation of the plant what measures are required to be taken by the Villagers. Has the unit carried out mock drill. Has the company explained any measures the villagers should take place during emergency situation. Villagers are risking their lives. BF-3 expansion is already taken place and trial are taken place. Has the Company taken any permission? Company has given 4th category jobs to the locals. Why good jobs are not given to the locals. I object to this expansion. |
| 65 | **Dhanashri P. Naik-- Absent** |
| 66 | **Sindiya S. Naik**<br>She is the resident of Dhakul Maina, she stated that her mother has severe health issues due to noise pollution she can't sleep at night, she had visited Dr. many times, Dr. gave her sleeping pills. She is staying within 5 meter away from the company and due to this she can't do study at night due to noise pollution and in day due to bad smell. She said she don't know why some villagers are supporting this plant or depending on this plant if because of employment than she want to ask them question whether they can't do any business or any job anywhere else. She studying diploma and she had decided she will never join this company. Further added that CSR activity is not given to her education she is doing Diploma now till date she got nothing. No students from village are given CSR benefits .She asked many village children whether they have got any CSR benefits but they directly stated that no benefits are given to them. Even below poverty line students who cannot effort anything are also not given any benefits so She fully oppose this plant. |

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| 67 | **Anant Amonkar**<br>He states that he is a resident of Amona village and a senior citizen. He states that the organisers of the public hearing should have been given preference to the senior citizen. He states that he is suffering from asthma due to pollution caused by the company. He states that he returned at Amona after 10yrs and immediately started suffering from Asthma. He request the GSPCB to take action against the company for air pollution. He states that the future generation will suffer if the company continues to cause the pollution. He states that the graphite dust falls on the plants and dirties his house. He states that the company has taken no steps to compensate. He strongly objects the expansion of the project. |
| 68 | **Swati Patel**--- Absent |
| 69 | **Santosh L. Naik**<br>He states that he is a resident of Maina Navelim. His house is at a distance of 5 meters. There is noise pollution due to Vendanta. Due to this pollution his children cannot study. He is a farmer and have 14000 sq meters field. However he is cultivating only 5000 sq meters. The other part of field is destroyed by the pollution by Vendanta. The company has given compensation but now for 12 years he is not gathering compensation. He oppose this plant how the blast furnace is expanded without permission. He states that he opposes. |
| 70 | Sameer Phadte--- Absent |
| 71 | Damodar Gawas--- Absent |
| 72 | Shailash G Phadte--- Absent |
| 73 | Sandeep Sawant--- Absent |
| 74 | Vishant S. Sawant----Absent |
| 75 | Sapnesh G. Phadte- Absent |
| 76 | **Laxman S. Narvekar**<br>He stated that he is Supporting the Plant on one condition that employment should be directly given and not under sub-contractor and pollution should be under Controlled. |
| 77 | **Ramesh Sinari:**<br>He states that he is a resident of Amona village. He states that he strongly objects to the proposed expansion of Vedanta. He states that there is a religious service in the village. He states that today God visits the houses individually in the village and this is very important for the people of the village. He states that he has forsaken his religious service to participate in the public hearing. He stated that the government officials at the public hearing are biased. He states that the list of speakers are mostly Sesa supporters that is facilitated by government officers. He states that some speakers who spoke in favour of the project. There is pollution caused by the company but they suffer as the company gives employment. He requests the GSPCB officials to carry out site inspection of the vicinity to identify the graphite pollution. He objects to expansion of the projects as the existing project already causes noise, air, water ground and odour pollution. This pollution also affects school children in the village. He states that on account of the existing pollution by the plant, the expansion of the unit is opposed. He opposes the divide and rule policy of the company as the company is forcing local who are the employees to speak in favour of the company. He states that the company has illegally encroached on communidade land. He states that the Vedanta company is similar to Emron company. He states that the court matter regarding |

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| | encroachment by Vedanta on communidade landis to be resolved and no activity can take place on the land. He stated that the presentation made by the company is false and fake. And the GSPCB must inquire. He appreciates the efforts of the Advocate Sagar, Adv. Vithal and the youth that are opposing the project. He strongly objects the project. |
| 78 | Satyajeet Sinari - Absent |
| 79 | Manoj Parab- Absent |
| 80 | Manguirish Gawas - Absent |
| 81 | Ramchandra Sinari - Absent |
| 82 | Sameer G. Sinari - Absent |
| 83 | **Sandesh Sinari**<br>He stated that he is supporting this plant. |
| 84 | **Navanath B. Gawas**<br>He stated that he is a resident of Amona. There is an eviction in 2013 as it is for him and against the Vendata. He opposes the plant. |
| 85 | **Prathamesh Gawas**<br>I work for Vedanta. I was thinking of not speaking against the company. However, if my seniors do not care for the Village I thought that I should speak the facts. My father was in army and fought for country hence I want to speak for my village. I was born in Navelim Village. I was staying outside state. Later I travelled to Goa and stayed and got my education in Goa. I came back to goa. We knew that some company two books. I don't oppose the present unit operation. However, I oppose extension and expansion, I used to remove oysters along with my father. Now we don't get oysters. There is air, water, odour, noise pollution. There are also accident taking place. In 2012 mining closed due to illegal mining. Due to closure of mining many lost their job. I want in 3 nos. plants. People are saying it is illegal. If the people are taken in however later it is proved illegal, then we will lose jobs. Revolutionary Goan speaks for illegality. If we goa for doing some business will it get permission, Also agriculture does not takes place. The existing plant should control its pollution totally. Government servant should ensure that permission be given if it is legal otherwise do not give permission. I oppose extension/expansion |
| 86 | **Akansha Gawas**<br>She stated that she is studying in the school and they always leave from school after taking bath in the morning but it is of no use since by the they reach to the school they are full of dust. She made submission to the authority that her house is on junction so to think how much dust is effecting their family. In her house small kid is coming to play but her house is full of graphite particles. Her family have to daily eat the particles so she requested the authority to look into the matter |
| 87 | **Aniket Fondekar**<br>He is a villager from the surla village his village was earlier was full of greenery due to agriculture & farms which cannot be seen now. All springs from the villages are disturbed due to company people from my village/my brothers were terminated from the services due to closing of mines by the company and now they are unemployed since they cannot get jobs in any industrial estate like Verna, etc since they have only experience in mine field he stated that he cannot see this youths are totally dependent on parents for their livelihood. The wild fruits/local fruits like banana cannot be eaten since they are with graphite particles. Our present CM is from this village he is also be proud of village. He further stated that he is very much privileged that he got an opportunity to speak on this public hearing he stated that he really think all species which can't speak |

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| | and he is worried that whom they will tell problem regarding pollution. In our school teacher thought us that land is our mother and we should protect it . He requested the authority not to be spectator in this hearing he feel like crying to see Vedanta Bhakasur who is destroying this village. He said that he is opposing this plant |
| 88 | **Pravin Sawant;**<br>He states that he is a resident of Amona village. He submitted his opposition to the proposed project on account of population it causes and its adverse effect on the health of the People |
| 89 | Damodar D. Gawas - Absent |
| 90 | **Pravir Fadte**<br>He states that he is a resident of Amona village. He objected to collectors, statement that the public hearing is being done as per court order. He seeks to know from the collector whether the public hearing is being conducted as per EIA notification or as per HC order. He states that the project proponent has falsified information in the EIA report. He states that Project Proponent has concealed material fact in the EIA Report the fact regarding pending litigations regarding the project. He stated that the Project Proponent concealed the various inspection reports submitted by the GSPCB before the High court in WP/881/2017. He states that the Project Proponent concealed the fact of the close location of schools & residences which is 10 + 50 mts from the project to the project and impact on them. He states that EIA report is not made as per TOR and EIA notification. He states that protected sites and monuments located in close premises to the project are not mentioned in the EIA report. He stated that Navelim Wetlands are not mentioned in the EIA report. He states that no public hearing in respect of BF-3 at Navelim was conducted. He states that no cumulative Impact Assesment has been done in this case. He states that he strongly objects the project proposal. He states that because of this concealment, the draft EIA report suffers from incurable defect. He states that EC should not be granted to the project at any cost. He raised the following queries that are not answered in the EIA report.<br>a. Total Strength of Skilled, unskilled, semi skilled workers in the company,<br>b. Total Strength of Technical and Administrative staff recruited from our village<br>c. How my employees are residents of Amona , navelim and surrounding areas.<br><br>He states that the company only provided in employment as unskilled labourers category to locals. He states that the company has not made any efforts to improve standard of life for locals. However, they have further expanded the company. He states that the company should support children of the affected villagers setup, skill institutes, college etc under CSR which they have failed. He states that the company has not done any planning. He states that public hearing is of no use and the company has no regard below. He states that in 2007 Amona Bachao Adolan was started. Further he states in 2008 WP/243/2008 was filed in the High Court regarding graphite pollution by the company. He further states that chapter 4 para 2 4.2.2 of the EIA report, states that during operation phase of enhanced capacity damage will be caused to the eco system. He states that High Court order dated 23-06-2008 stated that graphite pollution is caused by operation of the company. He further states that graphite |

pollution affects life of the public. He refers to an article that states the effect of graphite on workers causes headache, coughing, disability etc. He states that the effects are also serious on workers working for 4 years in such units. He states that he had studied the reports of Betki Health centre and seen that the respiratory diseases of locals increased due to graphite pollution. He further refers to the Affidavit of GSPCB filed in the High Court in WP/881/2017 in which it is stated that PM 10 and Pm 2.5 was exceeding limits which further attributed it to the anthropogenic activities also states that graphite particles are seen. He reiterents the submission in the affidavit. In WP/881/2017, Member Secretary of GSPCB Dr. Shamila Monteiro states at para 6 that graphite particles are emitted during the process of the unit and also during the cleaning of bag house. He states that at para 9 of the Affidavit the graphite particles are nuisance if they settle in residential areas. At para 23 she stated that the petition submitted photographs of the graphite pollution submitted by the petitioner. He submits that there was a site inspection conducted with the petitioner and the GSPCB officials. He states that the inspection report confirms the existence of graphite in temples and residential houses. He states that he sought to know from the company regarding the CSR for temples on account of pollution of temples but received no satisfactory reply. The affidavit of the GSPCB also states that graphite pollution has also polluted wells. The company has also polluted traditional wells in the village. He refers to the report of inspection of the GSPCB as referred to in the affidavit as above. He states that the report indicates that the temples located around 1.3km away from the plant to be polluted with graphite emitted by the company. He states that graphite also pollutes the offerings in the temple. He demands that the temples in the villages be made pollution free along with houses wells etc. He demands an assurance from the company on this aspect. He states that due to graphite pollution temples in the village have to be cleared thrice or more a day. He states that the report of GSPCB -dated 20-11-2019 indicates that at 10 locations graphite pollution was seen. He further quotes exceedance in dec 2018 and feb 2019 regarding PM 10 and PM 2.5 from the GSPCB report. He seeks a clarification of the report from the Collector. The Member Secretary of GSPCB in an Affidavit states that the graphite is a nuisance caused by the company. What action have the GSPCB or any state authorities taken against the violator Vedanta limited for nuisance admittedly created by Vedanta limited under section 133 of CRPC and Air (prevention and Control of Pollution Act 1981 and Environment Protection Act 1986. He states the government officials are supporting the company and are conducting public hearing to favour the company. He alleges that the public hearing has been conducted only to ensure that the people are opposing the public hearing do not get a chance to attend the Public hearing. He states that the public hearing is being conducted during covid pandemic and peoples health is being played with to favour the company. He submits the decision to only online registration without ascertaining how many people in the village have access to the internet. This was also done to favour the company . he states that the original public hearing was challenged before the high court on the above points. He further states that the public hearing could not have been conducted as WP/881/2017 was pending before the high Court. He states that it is only because of the High Court that he original illegal public hearing was challenged and the public hearing was to be held in amona and navelim.

He further states that the collector and GSPCB has done no public awareness of the public hearing. He further states that initially.

The public hearing was to be conducted first in Amona and then in Navelim. He states that the Collector has filed an application and Changed the dates. He state that today is a day of religious significance in amona at yet public Hearing is held today on account of collectors application. He further refers to the high court order that states that as per high court order the collector stated that vide publicity regarding change of dates of the public hearing and press conference would be held. He further requests the Collector to show that proof of the Press conference and vide publicity were held. He further states that the public hearing notice was published in the paper that have least circulation. He states that this was done in such a paper to ensure lowest participation in todays public hearing. He stated that no press conference was held dispise the High Court Order.

Notices are yet to be published vide publicity will be given for change of dates. Please give one detail of vide publicity, circulation of the newspaper is very less of the said newspaper.BF3 is increased before the hearing. So many people have raised objection. The ladies, gent's senior citizen and youths has raised their objection. If the company uses power and carries out expansion who is responsible for the consequences. Who will look law and order issue. Sesa Vedanta says that after new plant is operational pollution will reduce which is false. He asked GSPCB staff who carries out inspection and the MS and the collector and the top officials of Vedanta Should be given quarters near Vedanta and see what pollution is carried by the industry. Has there any study carried out by GSPCB to identify how many villages are affected due to Vedanta. The following villages such as Virdi, Amona, cudnem, surla, velguem, Khandola betki, tivre-orgao, volvoi, savoi-verem, marcela and Navelim are affected by pollution of Vedanta. Is there any study of flora and fauna available with the GSPCB? Collector should see that the compensation should be given to farmer. What action is taken? Collector should see all the villages and give compensation to such farmers affected by pollution. Some peoples have supported the company. He suggested to those who supported project to continue to run behind/after money we will look after your wives and kids and work to save our village.

Mr Vadte and Saptesh Sirdessai officers of Vedanta limited had called me and advocate sagar for compromise. He told the company that there is no compromise for pollution as they have very little ends and desire to meet.

GSPCB may seek details from company

1. Have you displayed on company website profit of last 3 years of the company.
2. How much amount of CSR spent for last 3 years from net profit of the company.

Vedanta has prepared EIA without consulting anyone from villages that are affected by this plant, hence EIA is faulty for this reason also.

Mr. Barve says that after setting up ductile plant the village will be atma nirbar. They don't want this plant to become atma nirbar as people are capable of working after their need.

Blast furnace 3 plant is fully automatic; how many you will employ. Company has cheated and defrauded all workers because of public hearing. Initially 250 workers were taken now only 114 are presently employed. Mr. Mahendra Bhagat is his friend who expired. His wife took

pains to bring up his kids. Why his wife was not given employment by Vedanta.
Prashant Bhagat met with an accident till now no one knows how he met with accident. His wife has taken pains to bring up his kids.11 years passed his wife is not given permanent job by vedanta. One staff died due to accident within plant. Company was opposed to destroy evidence of the accidental death therefore Vedanta should not and do not right to talk about employment. Siddesh Gawas had filed complaint dated 19/10/2020 however no action was taken only letters were written to the company to seek compliance. The GSPCB has waste time by issuing letters. Inspection was carried out on 16 dec 2020 and after the high court order the inspection was carried out on 22-01-2021. Siddesh gawas has made letter to the GSPCB and collector has not responded to the letter. The GSPCB sent letter to the company asking company for clarification from the company within 7days, giving 7 days to the company to complete the work of blast furnace 3 has been carried out . He states that Vedanta replies that he denies the allegation. He states that the GSPCB informed the complainant that the company has denied the allegation. The inspection was done on 16-12-2020 giving 2months times to complete the expansion of blast furnace 3. He states that the report of the pollution control board clearly state that expansion relining was in progress. Hot blast stove was replaced. Pre-feasibility report submitted to the MoEF study how the expansion of blast furnace 3 will be done. Report states that company was told by GSPCB that the capacity should not be increased. It was stated that the Board may forward the complaint to the factories and boilers. He stated that the Board may forward the complaint to the factories and boilers to verify if the capacity of Blast furnace III is increased or not. He stated that the same report is given to the court. In the new report there is no mention of report caused on 16-12-2020. Inspection report states that it was informed that lining of Blast furnace III was constructed . The qualification of inspection team is sought. However they are not fit to be security guards, going by nature or observations in 22/1/2021. He sought details from Factories and Boilers regarding the new project. Factories and Boilers informed that no details are available with the department. Documents and details of old plant and application for expansion of blast furnace 1, 2 and blast furnace 3. Under RTI, application to Pollution Control Board seeking to furnish the details of Blast furnace II and details of bag house of blast furnace 1. He stated that there are no details of specific report, however the details may be taken based on the indicates that EIA report is fake. He stated that details of equipment carry out measurements of illegal expansion. The reply of the GSPCB states that there is no reply available with the Board. He questioned the GSPCB about the liquid oxygen 100 TPA will be abled to authorized gas cylinder filling agency. He questioned what equipment the GSPCB has to measure oxygen, Nitrogen composition in the atmosphere, to which the GSPCB replied that there is no specific equipment's measures oxygen and nitrogen in atmosphere. He stated that how much level in the total air is of oxygen , nitrogen in all villages. He stated that this letter is of 1 mar 2021. He stated that the GSPCB has no records available with the board. He questioned how this Board will measure the oxygen , nitrogen level. He questioned when the people die who should be responsible for the death of the people. He stated that the Board has not conducted any study of oxygen and nitrogen level with respect to the

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| | existing plant. He questioned how was the public hearing is being conducted if the people suffer due to the lack of oxygen who is responsible. He stated how can you go ahead with any new oxygen plant in absence of having any data regarding the total composition of oxygen and in absence of any equipment to measure the impact of this oxygen plant on the total level of oxygen and the resultant effect of this plant on the surrounding environment. He further questioned what are the possible effects of the environment impacts on humans animals and fauna. He stated that no study was available with the Board. He stated to cancel the public hearing and do not grant the consent , Environmental Clearances, permissions license, or any NOC to the Vedanta company. He stated that if any disaster management is in place for the people. The reply from the GSPCB stated that the application was transferred to the concerned authority. He stated that he opposes the expansion and any new projects of the Vedanta company. He stated that the peoples views are such that they are fedup with .Mr. Vathe., Vedanta. |
| 91 | Madhu N Gaonkar - Absent |
| 92 | **Swagat S. Gawas**<br>He is the resident of Amona and the citizen of village panchayat. The company changed the name many times, reason is not known. Public hearing is kept, when collector had stated that administration of communidade has not taken action 2013 eviction was filed it is pending with the Collectorate. They are doing correspondence for past 3 years, while application submitted by project proponent is very fast this expansion uncalled for it is totally illegal. Public hearing should not have taken place. State whether the communidade land can be given to large scale industry if yes please give details. Pollution which falls on fodder is eaten by the cows. Milk from this cows is consumed by locals. Locals are suffering from pollution, request that CPCB should carry out study. CSR activities are affected because of Milind Barve and Saptesh Sardessai. EIA proposal by Vimta is not counted. He supports Adv Dhargalkar, Adv Naik and Pravin Phadte. Discharge of effluents in river is polluting it. Dr. Girap should take six month report of river at upstream and downstream and he opposes the new expansion project. He states that the Goa Land use ( Regulation ) Act 1991 says that any non tenanted land i.e communidade land cannot be allowed to use other than for agriculture. Civil suite bearing No.CS/24/2015 pending the district Civil Court, Mapusa on the matter of the Communidade land of Amona. As per Code of Communidade Article No.334-A, Communidade land can be used for small scale industry and there is no provision to use communidade land for large scale industry. Amona village is under the jurisdiction of the Director of Civil Administration. CSR activities effected badly due to officials of Sesa goa / Vedanta limited and they have failed to keep good relations to the villagers. CSR official Milind Barve is not eligible for the post. A good CSR in future to the villagers Mr. Milind Barve and Mr. Saptesh Sardesai should be removed from CSR. Taking consideration of all speakers GSPCB fails on the control of pollution and testing should be done by the central pollution Control Board. On upgradation Amona , Navelim, Cudnem, Surla, Velguem, Parle, Betki, Khabdola, Marcel, Volvoi, Savoi, Verem, St. Estevem, Cumbhajua, Tivrem, Orgao, habitation will extinct. The RTI matter is not given within the stipulated time by the government as it will be presented in the Public Hearing. The Mahajans of Amona were threatened in 2016 to transfer in other state has |

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| | shown by document on legal Act by Communidade of Amona on land matter. Pollution report in May 2020 and November 2017 vide NGT Order indicates Pollution Whereas the EIA report says Pollution is Zero and the report is not specified anywhere in the EIA nor in the GSPCB website. The LAQ answer by the Administrator of Communidade to the Collector says that the possession of the Communidade land to M/s. Sesa Goa was rejected by the managing committee on the grounds of Communidade. Eviction of M/s. Sesa Goa filed in the office of director of Civil Administration filed by the Communidade Amona dated 30/11/2013. Eviction Roznama says that the collector writes that the Administrator of the communidade has not taken any action on the Eviction matter. The Expansion of M/s. Sesa Goa Limited / Vedanta Limited is processed by the Collector office says that the work of the Collector is a wrong Act and indicates that he is blindly supporting M/s. Sesa Goa / Vedanta Limited. |
| 93 | **Kishna A. Sinari**<br>He states that he opposes the expansion because of pollution. There is noise, water, air pollution from the company. He states that they release toxic gases directly in the atmosphere. He states that water is released in the Mhadei River. He states that the Noise pollution and Air pollution is caused due to graphite particles emitted by the company. He stated that for the past few years he started farming and the company has not even given him fertilizers except for 1 fertilizer bag of 25 kgs of Rs. 250/-. The Kulaghan is spoilt as the graphite particles fall on the flora and gets spoiled. He is a daily producer. He states that the day society stopped taking his milk, company and society had many scams. He states that blast furnaces are existing at amona and Navelim and their temperature is 25000 plus. He states that there are 120 ovens that generate extreme heat. He states that it is continuously operated. He states that 6 of his cows died and the animal husbandry department had given a death certificate stating that the cows died due to the heat generated. He opposes all the heat generating units. He states that the unit is causing global warming. He states that when the unit was started in 1992, his grandfather had given permission to start the plant. He states that he can now stop the plant. He states that as per WHO report cancer is caused due to graphite emitted from the Company. He states that till 2010, 9 lakhs cancer cases where there in India and now it has doubled by 2018 by 12 lakhs. He states that he did an apprenticeship in 2019 in Vedanta plant and he has seen that the Bag house breaks and loosens up releasing graphite. He states that the company will go but the villagers will remain here. He states that 50 employment would be given the company. He states that he will give employment to the employees of the company in his cow shed. He states that why such companies are being begged to give the youth employment which are causing pollution. He states that he will provide the people with employment in his dairy farm. He states that they could go to pharmaceuticals companies for employment. He states that there is no effective health centre in Amona. He strongly opposes the project. |
| 94 | Raghuvir S. Sinari - Absent |
| 95 | **Amolkumar Prabhu Gaonkar**<br>Vedanta does not have mechanism and will power to curb existing pollution. Hence not to issue permissions to new plants. He stated that since morning whoever has spoken in the public hearing has accepted that there is pollution in the existing plant. |

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| | He stated that they forget people and curbing pollution. He stated that he oppose the plant. |
| 96 | **Dinesh Parab**<br>He stated that he is the resident of Pimpal waddo, Amona. He stated that he opposes the plant. He stated that he wants to inform the GSPCB the report prepared by Vedanta is false and should be scrapped. He stated that the noise pollution is stated as less than 45dBA is stated in EIA. Chokshi Laboratory is false laboratory and is not recognised by MoEF. He further states that a study of aquatic life is destroyed. He stated that acid rain is formed. Hence damage to flora and fauna has to be studied. He further stated that the discharge is effluent. This report does not have report on BOD and COD. The study of rain water and surface water is fake. He stated that all wells are contaminated. Health has given certificate that the water is not for drinking. He stated that the report is false. He stated that he opposes the plant. He further states that there are 3 cases pending with Vedanta. He states that 1 case should be filed against the Board for carrying out Public Hearing with fake EIA Report. |
| 97 | **Vishwanat R. Gawas** - Absent |
| 98 | **Netaji N. Sawant**<br>He stated that due to discharge of waste water and graphite particle the wells are contaminated. I strongly oppose the project. |
| 99 | **Jaideep G. Amonkar** - Absent |
| 100 | **Lavu G. Naik** - Absent |
| 101 | **Yeshwant B. Fadke**<br>He opposes the expansion of the plant. He has conveyed his strong objection to the proposed expansion of the activity for the reason which have been elaborated by the earlier speakers with regards to Air / noise / land and water pollution. |
| 102 | **Pradeep S. Naik**<br>He states that whatever spoken by Adv. Dhargalkar and Vithal Naik Gawas. I support the same and I oppose the plant. If EC is granted, then God will make them suffer and we do not want the plant. He wants GSPCB to stop the plant. They have destroyed our village. I strongly oppose the plant. |
| 103 | **Sandeep D. Parsekar**- Absent |
| 104 | **Sandesh G. Naik-**<br>He stated that before conducting this hearing, the GSPCB should have conducted the studies of the village. GSPCB is not doing their duty. And if they have done their duty they would have not suffered. Earlier the environment of our village was very good. So I am supporting the project. |
| 105 | **Anil M. Sinari.** - Absent |
| 106 | **Mausso Y. Naik**<br>He states that he is the resident of Dhakul Maina. He states that he joined mining in 2010 and 2012 he got a break. He states that this is a big project and there are no jobs with the company. He states that the company works with contract workers. He States that the company uses iron ore. He states that he had 15 cows. He states that he could not take care of them. He states that they died due to lack fodder. He states that the locals are facing skin problem due to graphite particles emitted due to the operation of the company. He states that after having such a big company in the village, |

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| | still the villagers are working outside the village. He states that he strongly opposes the project. |
| 107 | **Vishnu A. Naik - Absent** |
| 108 | **Viraj M. Naik**<br>He stated he is opposing the existing plant and future plant fully. This is a red category Plant and it should not be installed in residential area. He stated that EC permission should not be given to new plant. He raised a question that whether the red category plant can be installed without any public hearing in the residential area . They have their fields and they can live on that if all these plants are closed BF1 and BF2 is carrying out illegally as land agreement with the communidade is already expired before 10 years and matter of acquisition is pending with District Court . Further said BF3 plant is complete new plant and given EC without public hearing in the same matter Ramchandra Vamman Naik v/s M/s Sesa Goa Ltd writ 4/2011 for which the NGT has issued direction on 4/12/2017.They have disposed matter with direction to MoEF if any additional or further conditions that are required to be imposed on projectand hardly falls in ambit scope of expansion used in EIA notification 2006 for this purpose the applicant is at liberty to submit his suggestions to MoEFCC within 2 weeks .Further Copy of the MoEF report was not marked/ provided to Mr Ramchandra Naik , Mr Pravir Phadte, Khemlo Sawant and Viraj Naik .The report given is total meaningless and in contempt of court order. As per the MoEF report it is observed that the entire complex administratively functioning as single entity as is seen by the facts that both parts have a common ownership, common administrative offices and functions, common places for raw material and marketing, common financial returns etc. Therefore, though these two parts are spatially separated by internal industrial roads but in terms of operation and management they are de facto one single entity. The committee also examine the issues flagged in the joint inspection report of regional office Bangalore and Goa State Pollution Control Board, and also reviewed the conditions of environmental clearance dated 3rd June 2009 as directed by NGT vide its Order dated 4th December, 2017 in the matter of 2017 in the matter of Shri. Ramchandra Vaman Naik V/s. Sesa Goa Ltd & Ors. The copy of the report is not sent to the main petitioner as well as to the intervener petitioners.<br>As per report detail it is entire company that functioning as a single entity and administration. He questioned that 1 owner cannot have two companies . MoEFCC also said that 2 units are separated by industrial roads in between but are functioning as one entity. He stated that It is not an industrial road it is a public route. Report was in favour of company. The additional conditions were made additional filter beds, arrester and drainage to be provided for settlement to prevent siltation of rivers, nallahs and wells .These additional conditions are not followed by the company. He further mentioned that he is representing his written objections with the photographs.sesa Vedanta has violated these conditions. The drainage is directly connected to the lake through the existing nallahs. All the fish died such as Prawns, Kalundra , thigur, Potting ,Moli, Karchandi, kharange etc .this is required to be inspected thoroughly and the report is to be prepared before granting an EC. He also said that they don't want any more waste in their village. The water coming from the company, it may be rainy or any season it should be stopped as it carries particles such as slag and graphite in lake. |

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| | The case was filed against the public hearing in the High Court where Justice Sonak have already said that all the points are to be highlighted , the project proponent can counter these points and can answer.<br>He mentioned that in the presentation only the types of gases they have pointed but their impacts are not explained to the villagers. The awareness of impact of these gases is not done properly. He further said that he searched on internet and found that these pollutants namely SO2, NO2, Ozone, lead , Carbon Monoxide , Nickel etc. are harmful and can cause serious health hazards and he read the definitions of SO2, NO2 ,Ozone, Carbon Monoxide etc. and their effects on health.<br>It is always replied by the GSPCB that no records are available about percentage of these gases in the atmosphere. When BF3 and BF1 was granted separate consent then how can they say that it is a single plant and to be considered for expansion. These needs to be explained. He further said that the people who have spoken in the favour of the company have not informed that they are company worker but have said that there is a pollution.<br>He further said that company has pressurized their workers to speak in favour of company as company workers are also part of project proponents. Their statements in regards to expansion projects should be considered, memorandum has been given by people about the same.<br>He also stated that many senior citizen from surrounding villages have attended the hearing but had left the proceeding as there is no lunch arrangement have done to them.<br>Goa Pollution Control Board is not doing its duty, if people file complaint regarding pollution done by Sesa Vedanta and if reinsertion is done GSPCB manipulate the report to do favour to the company.<br>As per stated Affidavit filed before the Hon'ble High Court, Collector had stated that he will inform the public about change in date of Navelim and Amona Public Hearing which is not done. Further, he said that news of public hearing was shown at TV news channel i.e. Prudent Media, Goa 365 only on 11th and 12th March, 2021 which was last date of registration for public hearing. This is done to favour company to get minimum participation of people. He finally concluded with the objection |
| 109 | **Jaganath A. Parab** - Absent |
| 110 | **Surya R. Gawas** –<br>He stated that because of the public hearing Vedanta has stopped all the polluting equipment. I strongly oppose this project. |
| 111 | **Ashish A. Amonkar** - Absent |
| 112 | **Devendra J. Sinari**<br>He supports this plant |
| 113 | **Adv Sagar Dhargalkar**<br>He is a permanent residence of H. No.181/2 of Betal Wada Amona Goa.<br>He raised certain preliminary objections for holding the present public hearing in Covid-19 situation and without giving wide publicity to the today's public hearing. He prayed and sought blessings of God of the village before beginning his speech. He states that he has full objection to the Vedanta company that is depositing the graphite shiny dust on the village land, residential houses, drinking water well, schools, temples of the Gods of his village. He states that he is working as an additional Govt. Advocate and additional public prosecutor. He states that the public who is supporting the company should think of the harm being caused to the |

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| | people of the village and environment by projects of the company. He requests not to support this proposed pollution project. He questioned the urgency of conducting the public hearing during the covid pandemic. He states that this is being done at the cost of the villagers health. He states that the project proponent should be seated with the public. He objects the seating of the project proponent on dais with the Collector. He draws the attention of the collector to EIA notification, Appendix IV clause 4.0. He refers to the clause to conduct public hearing. He states that as per this clause the project proponent cannot be seated on the dais and cannot share dais with Collector. He stated that this is his first preliminary objection. He than referred to the EIA notification regarding public consultation stage III. He states that as per EIA notification stage III, only persons who are affected and who have plausible stake in the environmental impacts of the project can speak at the public hearing. He states that the employees cannot speak at the public hearing as they are biased towards project proponent, since they are employed in the existing company of the project proponent. He objected to the collector permitting company employees to speak at the Public Hearing as it is in violation of rule of fair play and in violation of EIA notification. He states that the company has threatened its employees and as such they are speaking in favour of the company as they fear that they will loose their job if they don't speak in favour of the company. He states that all speakers should state their link or employment with the company. He then refers the volume II of the EIA report (draft) submitted by the company. He states that the prior to submission of the EIA report, the EAC issues TOR, for preparation of draft of EIA report. He states that the TOR, are valid for 3yrs. He refers to the TOR of 2016. He states that TOR are subsequently changed by the Amendment. TOR cannot be amended like this. He insists that the TOR must be as per last preceding 3yrs data and cannot be extended. He refers to TOR letter of 6/3/2019, Vol II of EIA report. He states that as per EIA report it is stated the company has lied to the EAC that there are no pending litigation against the project and that there are no residential houses located in close proximity to the project. He states that then Health Minister late Dr. Suresh Amonkar had requested the CPCB to visit the surrounding areas around the company and verify the pollution caused by the operation of the company. The guidelines given by the CPCB in its report dated 07/03/2000 is still not followed by the concerned authorities including the GSPCB. He states that the CPCB has confirmed that the pollution is caused by the operation of the company. He states that the as per TOR EAC has prescribed further condition including conducting of a further baseline study. He states that the company has submitted a false baseline study of only 3 months. He requests for a reply from the company representative on this issue. He states that no study has been conducted on baseline study as was directed for in TOR letter dated 06/03/2019. He seeks to know from the company representative if the study is conducted as prescribed by the EAC in the TOR as atleast from the draft EIA report it does not appear that the study is conducted properly for even a year for all three seasons. He states that it is an incurable defect. He states that the study of the residences in the close vicinity of the company has to be done prior to preparation of draft EIA report. A Small child with leaves covered with graphite came on the speaker's podium. He submitted the leaves covered with graphite dust to the collector. With respect to CSR he states that the CSR committee as per companies Act is not formed by the |

Company. He stated that no details of CSR policy if at all any such policy is framed and their details are placed on the company website. He submits a copy of notification dated 2014 from the ministry of Corporate Affairs. He stated that food and water should have been provided by the company to participate at the last public hearing at Navelim. He states that the food was given to the animals by the company instead of giving it to the participants since people objected to the project of the company. He states that as per CSR rules 2014 and schedule VII, of the Companies Act 2013 the company has to support to promote education in the village, however the company is causing pollution in schools and is badly affecting the school children in the village. He states that the company does not take the health of the villagers into account and no CSR policy is carried out by the project proponent in their villages, in regards to health and all activities listed in schedule VII of the companies Act, 2013. He states that even during the Covid pandemic, food was not provided by the company to their contract migrant labourers but the villagers in-turn provided them the food, such was the inhuman attitude of the company. He states that the project proponent has totally violated the companies (Corporate Social Responsibility Policy) Rules 2014. He states that the project proponent has stated in the draft EIA report in Chapter II page 16, that only 50 persons will be employed in the proposed projects. Out of which locals will be preferred for unskilled and semi-skilled and not for skilled and executive staff. He states that the activity that benefits employees of the company cannot be considered as CSR activity. He states that as per annexure clause 6 Rules 2 % of the net annual profit has to be spent on CSR activity. He states that the companies CSR policy is not displayed on the company website. He states that the company needs to spend 2% of average net profit of the last 3yrs on CSR as per CSR Rules 2014 and same is violated by project proponent by spending too less than the 2% amount prescribed in the CSR Rules of 2014. He states that the EIA report clearly indicates that the company has violated the CSR policy Rules. He states that the above indicates that the EIA reports is totally faulty. He states that as per rule 4(6), the salaries of the CSR team of the company that they have spent money on should not increase 5% of the total CSR expenditure money spent, on repair of village Panchayat building and playground and most of the other expenditure shown in draft EIA report at chapter 7 page 47 table 7.9 is not in confirmity with CSR rules & schedule VII of Companies Act, 2013.

He states that as per the information received from the website of money control, the total average net profit of M/s Vedanta Limited is as under;
2017- 11,319 Crores net Profit
2018- 13,692 Crores net Profit
2019- 9698 Crores net Profit
2020- 4743 Crores net Profit

Average total net profit of Ms Vedanta Limited for last financial year for the period of 2018 to 2020 is around 18,647 crores. Therefore 2% of this net profit comes to Rs. 372.94 crores. Therefore the project proponent should have spent Rs. 372.94 crores on CSR. However, the project proponent has spent only Rs. 2,73,75016/-, which comes to only 0.014% of total average annual net profit of last 3 years. Apart from this nothing is mentioned as to how much amount is spent on Corporate Environment Responsibility (CER) in draft EIA report. He then referred the office memorandum dated 29-08-2017, regarding the validity of TOR of the project. He states that as per the office memorandum validity of the project should be 3yrs and the outer limit shall be 4yrs validity of TOR should not be calculated from the date of signing the TOR letter dated 06/03/2019 but from the date when the EAC meeting was held in Which decision was taken on 11/01/2018 at the highest. Actually the TOR validity expires in 2020 since the TOR letter dated 06/03/2019 relies on an annexure to TOR of 2016. Therefore 3yrs validity of TOR should start from the year 2016. He states that as per this the TOR letter of the project proponent has expired in 2020. He states that on this count this public hearing is illegal. He states as per office Memorandum baseline data cannot be older than 3yrs. Office Memorandum further states that the Public Hearing must be conducted during the validity of the TOR He states that validity of TOR is already expired and therefore the draft EIA report is prepared on the bases of expired TOR, therefore the present public hearing as well as draft EIA report vitiated and in valid and therefore no EC can be granted on the bases of this public hearing and TOR. He states that in terms of this the Public hearing cannot be conducted. He refers to the matter filed regarding the issue of pollution by Pravir Fadte against the company before the high court. He relies on the affidavit and the report submitted by the GSPCB in WP/881/2017. He states that the report of inspection conducted in 2018 indicates that the company was causing pollution however the company states on affidavit filed before high court that the pollution is due to the activity by the villagers including on account of the children playing volleyball and on account of zatra in the village. He states that the subsequent reports of GSPCB produced in high court indicates that the pollution was being caused by the company. He states that the GSPCB's affidavit filed before the Hon'ble High Court by the member Secretary Mr. Levinson Martins indicates the PM 10 and PM 2.5 levels in the villages have exceeded in residential areas around the plant. He states that if pollution is being caused by existing operation of the company than the same has to be controlled first before even thinking of any expansion. He states that the cumulative pollution impact assessment study has not being done by the company and hence the EIA report is defective. He then raises issues of employment. He states that the EIA report states the proposed project which generates only 50 number of employment. He states that earlier proposed project of 261 crores guaranted 118 employees whereas new project costing 701 crores only promises 50 jobs. He stated that the company only gives employment to the outsiders and not locals or Goans. He refers to volume I chapter II page 24 of the EIA Report where it is stated that relining of Blast Furnace 3 upgradation was scheduled in April 2020. He states that the increase in production as stated in the EIA Report due to relining amounts to the same amount of increase of production as stated in the EIA Report for the proposed project. He states that target production of 1850 TPD mentioned in EIA draft report, if multiplied by number of working days of 350 than it comes to 647000 which is just 3000 kgs less than total 650000 TPA capacity mentioned in proposed expansion of BF-3 at Maina Navelim. He further states this proves that the project proponent has already constructed the proposed project of Blast Furnace-3 without waiting for the result of this public consultation stage. He states that this shows that the project proponent does not believe in the voice of the people and democratic setup. He states that this public hearing is just reduced to farce by the project proponent by admittedly

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| | constructing the BF-3 plant in advance to suit the capacity of proposed enhancement capacity for which the todays public hearing is held. He seeks a clarification on the point from the representative of the Company. The Additional Collector states that representative is not required to give any answers to the queries of the speakers. He refers to the Office Memorandum of the MoEF of 2009, which states that the company representative is required to answer the questions of the public. The company representative stated that they will submit their replies to all their queries later as he needs to seek clarification from the company management. He further objects as he states that the company representative needs to answer the queries and if he is not an authorised representative of the company then he cannot be present and initiate proceedings on behalf of the project proponent. He states that the query and answers is relevant and important and therefore project proponent need to have answered this question. He refers to the water requirement of the project as stated in the EIA report. He states that as per the report, 1 crore 27 lakhs litres of water will be used by the Company per day and that will include 80 lakhs litres of drinking water per day. He states that this water will be sowed from the valvanti River which further depends on Mhadei River which will be grossly affect Mhadei River. He states that this will cause water shortage to all villages in Sanquelim Constituency. He States that presently the company in addition to above are using 4320 KLD water per day from the Mandovi River. He further stated that the untreated water is released in River mandovi which further results in pollution. He states that the GSPCB does not do periodic testing of the untreated water discharged by the Vedanta Limited in river Mandovi. He states that in addition to the emission of graphite in the air, the company also discharges toxic gases with foul odour in the air which results in acid rains in the villages. He states that GSPCB is not monitoring this aspect. He states that the company is silent on the Oxygen plant in the EIA Report that is proposed to be established. The bad effect of operation of the Oxygen Plant on Children and villagers of the Village is not studied at all. He says that there is no report on impact of the by products from this plant. He accuses Mr. Vadte and Mr. Saptesh– Company officials of coming to Panaji to settle the matter filed in High Court with him and Mr. Pravir Fadte. He further stated that he declined the offer made by Mr. Vadte. He states that this practice of offering money, threatening people is unfair practice adopted by the officials of project proponent and therefore on this count the project proponent is not entitled for any environmental clearance. He states that the baseline study report is faulty and EIA report is based on secondary data. He refers to the sources of Air Pollutants in the EIA Report in which he states that outdated Air pollutions control measures are proposed by the Company. They are also proved to be ineffective from the series of reports submitted by GSPCB in high court. He states that the pollution caused by the Company is causing adverse effect on flora and fauna of the village and that the villagers should speak against the project. He submits his strong objection on the proposed expansion project and request MoEF not to grant the EC for the project. He once again seeks clarification on the point/queries raised by him from the company representative. He states that Mr. Vadte cannot initiate the public hearing proceedings if the Mr. Vadte is not authorised. Company representative stated that he has authority to answer however he will collaborate all queries and answer later. He requested the Collector to pass |

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| | a reasoned order on his request regarding the clarification he is seeking from the project proponent. The Collector clarified that the GSPCB has recorded the queries and the company will answer later. He demands that on going BF-3 should be stopped till the outcome of this public consultation and if the outcome of this public hearing is against the project proponent, than the Blast Furnace -3 should be shut down and dismantled completely. He submits inspite of raising specific queries to the unit on whether the company carried out expansion of the project (as stated in the EIA Report), waiting for outcome of his public consultation stage and before getting prior EC. Representative of the company refused to answer the query as he was unable to answer it . he states that specific questions was asked to the project proponent officer Mr. Vadte, whether what is mentioned in the draft EIA report in volume 1 chapter page 24 regarding construction of blast furnace 3, in advance to suit the proposed expansion capacity of blast furnace 3, much before the outcome of present public consultation and before obtaining Environmental Clearance is correct? Mr. Vadte, officer of the project proponent was unable to answer this. He strongly objected to the expansion of the project. Since he has proved beyond doubt that the Blast Furnace 3 is admittedly already constructed with proposed expand capacity of 650000 TPA, hence the Blast Furnace 3 plant should be made to stop functioning right now. He further stated that despite of raising questions on EIA whether they have expanded the plant prior to conduct of Public hearing, the project Proponent has failed to answer this query. HE has also submitted written objections to the Proposed Project. |
| 114 | **Sadanand V. Malik**<br>He stated that that he was waiting from the morning from 10.30 am and was trying to stop this project from 1991. And he was also opposing the land acquisition due to faulty procedures. This project itself illegal Sesa is not having a title nor IDC is having a title of the land acquired by the company. He is staying 500 km away from the plant. He has a farm in which many plants/ trees are there which are fully filled with graphite particles. He state that this kind of projects should not be proposed anywhere in the world. Many diseases are spreading due to this kind of plant like cardio vascular diseases etc. He has 5 to 6 mango trees around his house which are not baring any fruits from last 8 years. Some dots are also found on the mangoes and if they are consumed by the humans they will also get effected. This plant will totally endangered our species and life. He stated that he would be happy if IAS officer was there for this hearing as he would be in better position to understand the land acquisition act. Communidade is state within state and it is a sovereign.Chandragupt Maurya has given all tittles to all communidades . Action of the Government of taking land from the "Gaonkars" is totally illegal. Than he explained how collector word and collector came into picture in India. Thereafter he explained the procedures regarding land acquisition act and role of collector. Although the land acquired cannot be transferred , sold, mortgaged or gifted without the prior sanction of the Government, under section 44 A of land acquisition Act , the land is transferred in several names without prior sanction of the government |

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| | from Sesa , Kembla coke , Sesa Industries, Goa Energy Pvt ltd , Sesa Sterlite ,Amitech Pipe Systems Pvt Ltd., Teksid of India Pvt Ltd, Vedanta etc. The land acquired cannot be mortgaged , but the lease agreement between GDDIDC and the company itself mentioned that award is made for part of the property acquired to enable the company to mortgage the land with SAKURA BANK OF JAPAN. Entire process of land acquisition is based on the record of rights i.e extracts of I&XIV. These documents are fake as can be proved very easily .Record of rights mentioned name of occupant. Under section 21 of land revenue code occupant is the person whom the land is granted by government under tenure for certain purpose. Any land acquired under land acquisition Act does not confer the title to the property to acquiring party as title always stand in Government being the original grantor of the land but by acquisition only possession is taken back. Another very serious issue is Goan's are not citizens of India by statute. Citizenship Act of 1955 does not provide that the Goan's are citizens of India although so many times Citizenship Act is amended after annexation of Goa. So he is opposing the plant. Hard copy submitted. |
| 115 | **Swapnali S. Fadke** - Absent |
| 116 | **Arati S. Dhargalkar**- Absent |
| 117 | **Atchut R. Gawas**- Absent |
| 118 | **Chandrakant V. Sinari**- Absent |
| 119 | **Ramkrishan P. Kamat**<br>He is the resident of Amona, the public hearing kept by GSPCB is illegal. He oppose the Plant. The resolution of gram Sabha has been forwarded to GSPCB. Board had forwarded to health and other departments etc. further action was not taken. Govt of Goa and other department of state are supporting all industries of Vedanta .There are various red category industries in various villages. Health department should make report of all 20 villages having red category industries. Vedanta operation has affected health of locals. It is requested to give white paper on health of 20 villages. Air quality data of 15 years to be given each and every household of the 20 affected villages. GSPCB has by passed the govt gazette dated September 2014 regarding red category industries and public hearing is conducted. Taking into consideration of the opposition and he opposes the plant. |
| 120 | **Shivanand V. Naik**<br>He is the resident of Maina Navelim, he felt that CM should have attended the hearing. Collector, GSPCB and other officials have destroyed the village due to pollution of Vedanta. This has taken place because of GSPCB, They have established dairy society only 15 are remaining out of 60. We have brought fodder from Karnataka. The Milk produced is less because of pollution. Mango production is reduced due to pollution. GSPCB gives certificate and company gives pollution. He oppose the new plant . |
| 121 | **Keshav M. Kelkar**<br>He have come from surla, He opposes the expansion of vednata plant. CSR activities of Vedanta are not done in surla . amona , navelim is totally affected by graphite band surla Velguem, Cudnem are also affected by graphite pollution of Vedanta. Some panch informed villages about public hearing. GSPCB has not created awareness. Gas is harmful, which co will be released from this plant will affect Hemoglobin. CSR activities they give fertilizers like urea, ammonia etc for few years there is |

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| | production, after that the field are barren. They purchased one stretch of kulaghar and keep barren which affects the other nearby kulaghars. Because of expansion the plants are cut and company releases polluted gases which affects life of people. Village Panchayat has full opposition. Consider opposition from people from village in 10 kilo meter area. Check the supporting documents whether they are local and from the village 10 kilo meters around the plant. In 2011-2012 BF 3 was started. There was an explosion. The company informed that the explosion is from old plant. He opposes the plant, |
| 122 | **Sameer Bhagat**<br>We are facing pollution from past 30 years. Graphite is spread in their house. His wife and kids are taken to Dr every 2 months. Smoke is released which affects the people. His request to GSPCB, collector and Vedanta officials to eat the vegetables from curry leaves given by his daughter. He and his family opposed this plant. They don't get to eat the wild fruits available due to pollution |
| 123 | **Pandurang H. Fadte**- Absent |
| 124 | **Laxman T. Parab**- Absent |
| 125 | **Milind D. Naik**- Absent |
| 126 | **Milind R. Gawas**- Absent |
| 127 | **Madhukar Narayan Parab**<br>He stated that the shigmo is going on in the village and people are suffering there. Than he concluded that by saying he is opposing the plant. |
| 128 | **Shantaram Vithoba Sinari**- Absent |
| 129 | **Dattaray Govind Parab**<br>He says that pollution is taking place. Measure has to be taken by the Vedanta. He opposes the expansion. He request GSPCB to carry out survey along with locals. The survey has to be conducted village wise Pollution measures to be taken village wise to reduce the pollution. Kindly reduce the pollution of existing plant |
| 130 | **Anand Krishna Sinari Gaonkar**<br>He stated that he is opposing the plant. |
| 131 | **Mahendra Biku Shirodkar**<br>EIA report shown is falls. He is panch of surla. 30 villages are affected by Vedanta plant then why was this public hearing conducted in two villages only. How many locals from village panchayat surla can come at night to attend hearing? He request to conduct the public hearing in other villages. The EIA report is prepared by Vedanta. GSPCB should prepare the report. When any project come there should cost plus benefit analysis. The agriculture, dairy are affected by the plant. They don't require such pollution industry. How many staff are there in the plant from outside state? Most of the workers from Vedanta stated that pollution takes place who has given their support. Locals of village panchayat had supported Vedanta however later Vedanta turned their back. Supporting documents for expansion may be verified and checked if the person is from outside state. If permission is given then Dhakul Maina will be totally destroyed. Adv sagar dhargalkar, Adv vijay naik and Praveen phadte he supports them and wish them luck. He opposes the plant. |
| 132 | **Sandesh Parab**<br>He is resident of Amona and he opposes the plant due to pollution |
| 133 | **Dattaram Desai**<br>He stated that he is waiting here from the morning and most of allegations |

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| | are done against GSPCB. Everyone have spoken about the pollution and no measures are taken by the company and he concluded with the objection and requested GSPCB to spend the time with villagers and to conduct the survey as to how exactly the pollution is caused. |
| 134 | **Sandeep Phadte-- Absent** |
| 135 | **Mr.Sanket Sinari**<br>Virtual /online speaker<br>He stated that Vedanta has a very bad reputation as we can see by the opposition of people Jharaskunda Orrisa, 13 people were killed in violence in Tamil Nadu due to protest against pollution of Vedanta. The real question is how many jobs they can create when there is technological advancement and Automation. Also more people or their families working for Vedanta or working with Vedanta their opinion should not be taken in consideration as it raises an issue of interest of conflict. He thoroughly opposes the expansion of Vedanta. |

## Publicity of Environmental Public Hearing

The GSPCB issued public notices in the newspapers namely O Heraldo (English), , GoanVarta (Marathi), Business Standards (Western Edition) (English), BhangarBhuim (Konkani). Informing the general public regarding the date, time venue, submissions of objections, suggestions, views, placement of EIA reports for reference, etc. GSPCB issued advertisement on local Television/radio channels continuously for 2 days informing general public of the Public Hearing. The local Authorities such as Village Panchayats and Municipalities was requested to give vide publicity of the Public Hearing within their Jurisdiction. The Publicity given is adequate. It was also informed to affected person to participate through virtual digital hearing should submit email address name and mobile number to GSPCB. The link for virtual hearing was sent on their email ID by the project proponent.

Chairman/Additional Collector requested the people present that if they so desire they may file their written objection/suggestion/views by 22/03/2021 to the GSPCB. The same will be part of the hearing and accordingly it would be forwarded to the concerned Regulatory Authority.

Advocate Sagar Dhargalkar demanded that the status of persons who spoke in support of the Vedanta Company and who are employees of the company should be mentioned in the minutes, as employees of the Company cannot speak at the Public Hearing as this amounts to a violation of the EIA Notification 2006 as such persons are project proponent representatives and not affected persons.

The Addll. Collector directed Adv Dhargalkar to submit his written objection in this regard. This representation was duly submitted and taken on record.

The recorded minutes were accordingly read out to the public in Konkani and subsequently after receiving suggestions and as agreed were signed by Shri.Gopal Parsekar Additional Collector I and Dr. Mohan Girap, Scientist ‘ C’ .

A total of 679 objections and a total of 616 supporting letter received 428 numbers of persons registered as participants for the public hearing.

The Public Hearing commenced at 10:30 AM on 21/03/2021 and the minutes were signed at 06:30 AM on 22/03/2021.

On this 22nd day of March, 2021.

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| 22/3<br>(Shri.Gopal Parsekar)<br>Additional Collector I<br>North Goa District | 22/03/2021<br>Dr.Mohan Girap, Scientist ‘C’<br>Goa State Pollution Control Board |

**ANNEXURE 10**

GOA FOUNDATION
G-8, St Britto's Apartments, Feira Alta, Mapusa 403507 Goa, INDIA
*Tel:* +91-(0)832-2256479; 2263305 *(also fax)*
*E-mail:* goafoundation@gmail.com *Website:* www.goafoundation.org

20.3.2021

To:

Member Secretary,
Goa State Pollution Control Board,
Saligao, Bardez, Goa.

Subj: Objections to the proposed expansion of the Proposed Expansion of the Vedanta Limited Sesa Goa iron plant at Amona North Goa

Dear Sir/Madam,

The objections of the Goa Foundation to the proposed expansion of the Vedanta Ltd Sesa Goa plant at Amone may please be taken on record.

Human health is strongly dependent on the quality of the air we breathe. The World Health Organization recently estimated the *seven million people die prematurely each year* because of elevated levels of pollutants in ambient air.[1] Therefore, EIAs for proposed projects that are likely to impact air quality must include robust analyses of potential impacts to air quality.

1. The most serious complaint against the existing plants at site is of air pollution, including graphite particles. This the company has not been able to resolve till this date. Till such time as air pollution is brought under control, expansion proposal may be rejected outright.

True Copy

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[1] World Health Organization "9 out of 10 people worldwide breathe polluted air, but more countries are taking action." https://www.who.int/news/item/02-05-2018-9-out-of-10-people-worldwide-breathe-polluted-air-but-more-countries-are-taking-action

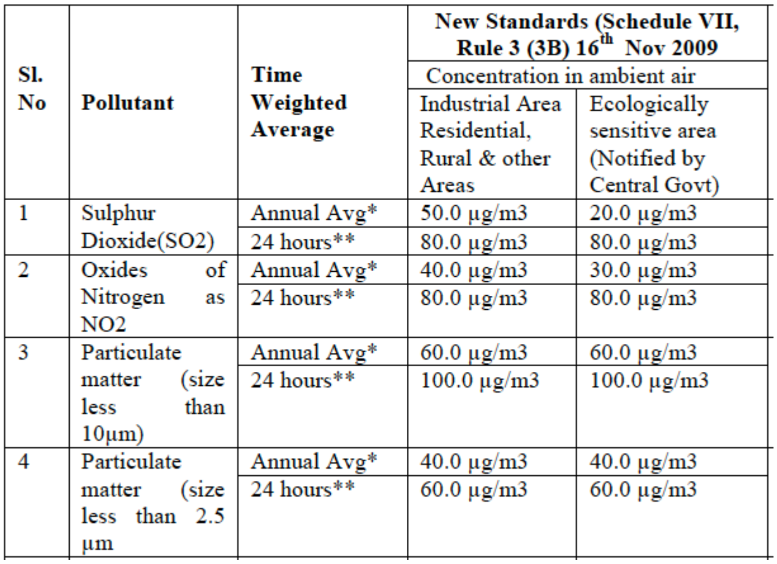
2. It also appears that construction of the Blast Furnace No.3 has been commenced even prior to the public hearing and grant of environment clearance. On this ground alone, it is required to reject the application for expansion. I am enclosing a report of the PCB which clearly shows construction of the BF3.

3. The following material from the EIA for the Proposed Expansion of the plant at Amona shows why the proposed expansion is ill-advised. In fact, the company needs to be prosecuted for existing air pollution and not rewarded with an expansion.

   **A. Baseline air quality data shows that Vedanta Limited Sesa Goa's iron plant is causing impermissible levels of air pollution**

   Assessments of how a project may impact air quality begins with characterizing existing (baseline) ambient air quality. If existing air quality is already unhealthy, decision makers should reject any project that would further worsen air quality of the location.

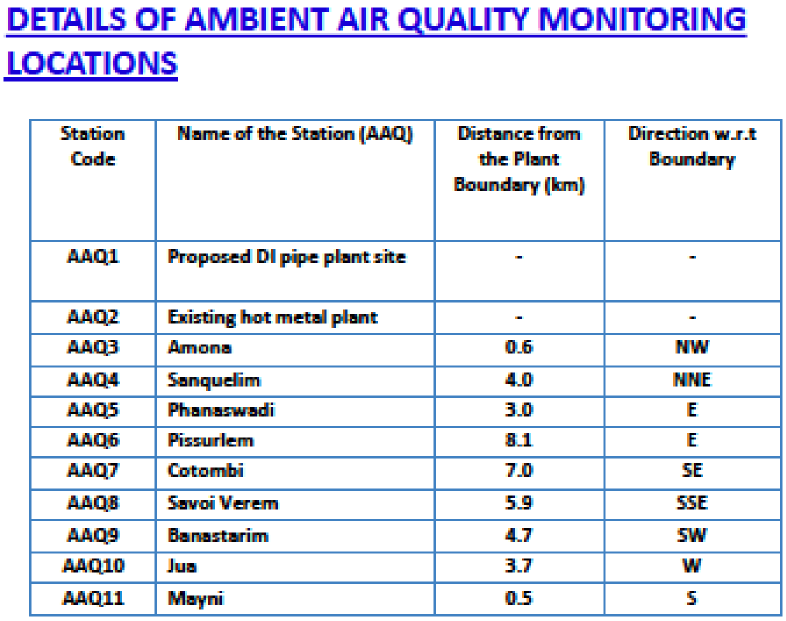
   The Government of India has enacted the following set of National Ambient Air Quality Standards for common air pollutants:



| **Sl. No** | **Pollutant** | **Time Weighted Average** | **New Standards (Schedule VII, Rule 3 (3B) 16th Nov 2009** | |
|---|---|---|---|---|
| | | | Concentration in ambient air | |
| | | | Industrial Area Residential, Rural & other Areas | Ecologically sensitive area (Notified by Central Govt) |
| 1 | Sulphur Dioxide(SO2) | Annual Avg* | 50.0 µg/m3 | 20.0 µg/m3 |
| | | 24 hours** | 80.0 µg/m3 | 80.0 µg/m3 |
| 2 | Oxides of Nitrogen as NO2 | Annual Avg* | 40.0 µg/m3 | 30.0 µg/m3 |
| | | 24 hours** | 80.0 µg/m3 | 80.0 µg/m3 |
| 3 | Particulate matter (size less than 10µm) | Annual Avg* | 60.0 µg/m3 | 60.0 µg/m3 |
| | | 24 hours** | 100.0 µg/m3 | 100.0 µg/m3 |
| 4 | Particulate matter (size less than 2.5 µm | Annual Avg* | 40.0 µg/m3 | 40.0 µg/m3 |
| | | 24 hours** | 60.0 µg/m3 | 60.0 µg/m3 |

   Each of the four pollutants in the table above has *two different numerical limits*: one for an annual average period and one for a daily (24-hour) average period. The numerical limits for annual average periods are always lower than numerical limits for average periods because the quantity of pollutants we breathe in, and hence the overall impact of ambient levels of pollutants, depends on the duration of our exposures.

Seeking environmental clearance for expansion, the project proponent monitored air quality at the following locations:



**DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS**

| Station Code | Name of the Station (AAQ) | Distance from the Plant Boundary (km) | Direction w.r.t Boundary |
|---|---|---|---|
| AAQ1 | Proposed DI pipe plant site | - | - |
| AAQ2 | Existing hot metal plant | - | - |
| AAQ3 | Amona | 0.6 | NW |
| AAQ4 | Sanquelim | 4.0 | NNE |
| AAQ5 | Phanaswadi | 3.0 | E |
| AAQ6 | Pissurlem | 8.1 | E |
| AAQ7 | Cotombi | 7.0 | SE |
| AAQ8 | Savoi Verem | 5.9 | SSE |
| AAQ9 | Banastarim | 4.7 | SW |
| AAQ10 | Jua | 3.7 | W |
| AAQ11 | Mayni | 0.5 | S |

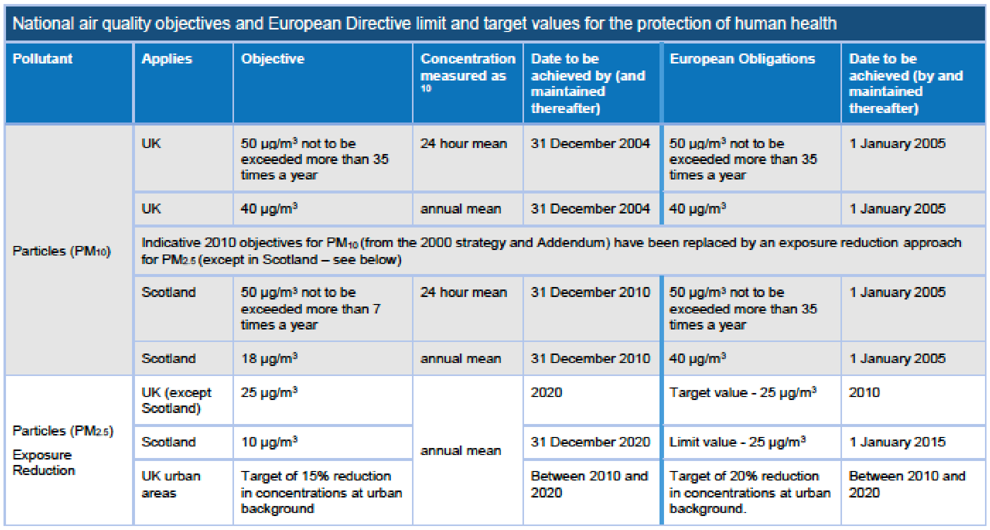
Annexure X of the EIA – Ambient Air Quality Results – shows that PM$_{10}$ levels at these locations *averaged* the following:

AAQ1 Proposed DI pipe plant site: 70.2 µg/m$^3$ (10.2 µg/m$^3$ above the annual NAAQS for PM$_{10}$)
AAQ2 Existing hot metal plant: 69.6 µg/m$^3$ (9.6 µg/m$^3$ above the annual NAAQS for PM$_{10}$)
AAQ3 Amona: 68 µg/m$^3$ (8 µg/m$^3$ above the annual NAAQS for PM$_{10}$)
AAQ4 Sanquelim: 58.1 µg/m$^3$
AAQ5 Phanaswadi: 59.6 µg/m$^3$
AAQ6 Pissurlem: 63.8 µg/m$^3$ (3.8 µg/m$^3$ above the annual NAAQS for PM$_{10}$)
AAQ7 Cotombi: 63.2 µg/m$^3$ (10.2 µg/m$^3$ above the annual NAAQS for PM$_{10}$)
AAQ8 SavoiVerem:61.1µg/m$^3$ (10.2 µg/m$^3$ above the annual NAAQS for PM$_{10}$)
AAQ9 Banastarim: 58.4 µg/m$^3$
AAQ10 Jua: 63.5 µg/m$^3$ (3.5 µg/m$^3$ above the annual NAAQS for PM$_{10}$)

AAQ11 Mayni: 67.5 µg/m$^3$ (7.5 µg/m$^3$ above the annual NAAQS for PM$_{10}$)

The authorities should conclude from this data that ambient air quality surrounding the Vedanta Limited Sesa Goa iron plant at Amona is impermissibly unhealthy and deny any proposed expansion of the facility until measures are implemented to abate emissions from the existing plants.

The poor air quality caused by Vedanta Limited Sesa Goa iron plant is more apparent when compared to countries with air quality standards that are more protective than those of India. Vedanta Limited Resources is headquartered in the United Kingdom, where the following National Ambient Air Quality Standards apply:[2]



National air quality objectives and European Directive limit and target values for the protection of human health

| Pollutant | Applies | Objective | Concentration measured as [10] | Date to be achieved by (and maintained thereafter) | European Obligations | Date to be achieved (by and maintained thereafter) |
|---|---|---|---|---|---|---|
| Particles (PM$_{10}$) | UK | 50 µg/m$^3$ not to be exceeded more than 35 times a year | 24 hour mean | 31 December 2004 | 50 µg/m$^3$ not to be exceeded more than 35 times a year | 1 January 2005 |
| | UK | 40 µg/m$^3$ | annual mean | 31 December 2004 | 40 µg/m$^3$ | 1 January 2005 |
| | Indicative 2010 objectives for PM$_{10}$ (from the 2000 strategy and Addendum) have been replaced by an exposure reduction approach for PM$_{2.5}$ (except in Scotland – see below) | | | | | |
| | Scotland | 50 µg/m$^3$ not to be exceeded more than 7 times a year | 24 hour mean | 31 December 2010 | 50 µg/m$^3$ not to be exceeded more than 35 times a year | 1 January 2005 |
| | Scotland | 18 µg/m$^3$ | annual mean | 31 December 2010 | 40 µg/m$^3$ | 1 January 2005 |
| Particles (PM$_{2.5}$)<br>Exposure Reduction | UK (except Scotland) | 25 µg/m$^3$ | annual mean | 2020 | Target value - 25 µg/m$^3$ | 2010 |
| | Scotland | 10 µg/m$^3$ | | 31 December 2020 | Limit value - 25 µg/m$^3$ | 1 January 2015 |
| | UK urban areas | Target of 15% reduction in concentrations at urban background | | Between 2010 and 2020 | Target of 20% reduction in concentrations at urban background. | Between 2010 and 2020 |

Levels of PM$_{10}$ and PM$_{2.5}$ surrounding the Vedanta Limited Sesa Goa iron plant are far in excess of these European standards. Vedanta Limited Resources needs to explain how it is acceptable that the facility it operates in India grossly violates air quality standards of the country in which it is headquartered.

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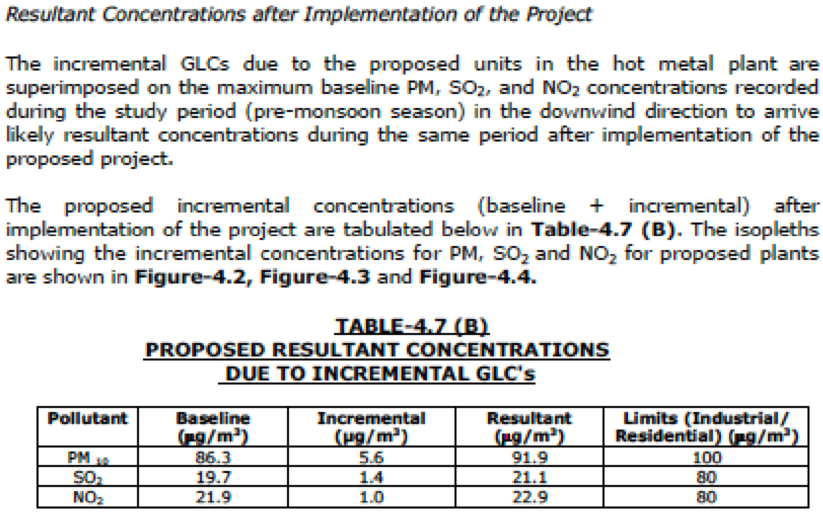
[2] See: https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf

## B. The air quality impact assessment fails to provide information about how emissions would impact *annual and 24-hour levels of PM$_{2.5}$* and *annual average levels of PM$_{10}$*

Page C-14 of the EIA provides the following air quality impact assessment of the proposed expansion:



*Resultant Concentrations after Implementation of the Project*

The incremental GLCs due to the proposed units in the hot metal plant are superimposed on the maximum baseline PM, SO$_2$, and NO$_2$ concentrations recorded during the study period (pre-monsoon season) in the downwind direction to arrive likely resultant concentrations during the same period after implementation of the proposed project.

The proposed incremental concentrations (baseline + incremental) after implementation of the project are tabulated below in **Table-4.7 (B).** The isopleths showing the incremental concentrations for PM, SO$_2$ and NO$_2$ for proposed plants are shown in **Figure-4.2, Figure-4.3** and **Figure-4.4.**

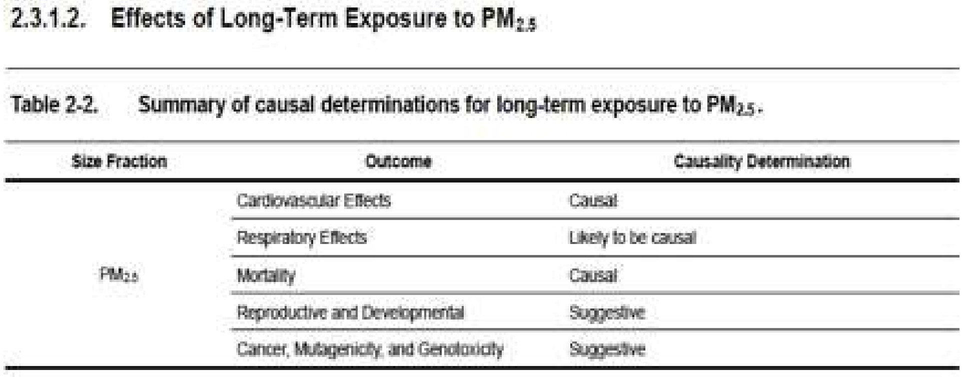
**TABLE-4.7 (B)**
**PROPOSED RESULTANT CONCENTRATIONS**
**DUE TO INCREMENTAL GLC's**

| Pollutant | Baseline (µg/m$^3$) | Incremental (µg/m$^3$) | Resultant (µg/m$^3$) | Limits (Industrial/ Residential) (µg/m$^3$) |
|---|---|---|---|---|
| PM$_{10}$ | 86.3 | 5.6 | 91.9 | 100 |
| SO$_2$ | 19.7 | 1.4 | 21.1 | 80 |
| NO$_2$ | 21.9 | 1.0 | 22.9 | 80 |

Note again how Vedanta Limited Sesa Goa only compares resultant pollutant levels to the 24-hour National Ambient Air Quality Standard for PM$_{10}$, while providing no information about resultant PM$_{10}$ levels on an annual average, and no information about PM$_{2.5}$ levels at all. These omissions deprive stakeholders and environmental authorities of sufficient information to determine whether the proposed expansion is environmentally acceptable. Note also how the predicted resultant level of PM$_{10}$ of 91.9 µg/m$^3$ is well in excess of the 24-hour ambient air quality standard for PM$_{10}$ in the United Kingdom which is set at 50 µg/m$^3$.

## C. The EIA fails to provide a quantitative health impact assessment associated with expected increased emissions of pollutants

There is robust evidence that exposure to elevated levels of PM$_{2.5}$ in ambient air ***causes premature mortality and cardiovascular effects (predominantly ischemic heart disease and congestive heart failure***). According to the U.S. EPA's most recent Integrated Science Assessment for Particulate Matter, the following relationships exist for long-term exposure to $PM_{2.5}$:[3]



2.3.1.2. Effects of Long-Term Exposure to $PM_{2.5}$

Table 2-2. Summary of causal determinations for long-term exposure to $PM_{2.5}$.

| Size Fraction | Outcome | Causality Determination |
|---|---|---|
| $PM_{2.5}$ | Cardiovascular Effects | Causal |
| | Respiratory Effects | Likely to be causal |
| | Mortality | Causal |
| | Reproductive and Developmental | Suggestive |
| | Cancer, Mutagenicity, and Genotoxicity | Suggestive |

Moreover, the U.S. EPA has also found that these causal relationships hold at levels of $PM_{2.5}$ that are *below* the National Ambient Air Quality Standard for $PM_{2.5}$ of 12 $\mu g/m^3$ on an annual basis – without evidence of any threshold.[4]

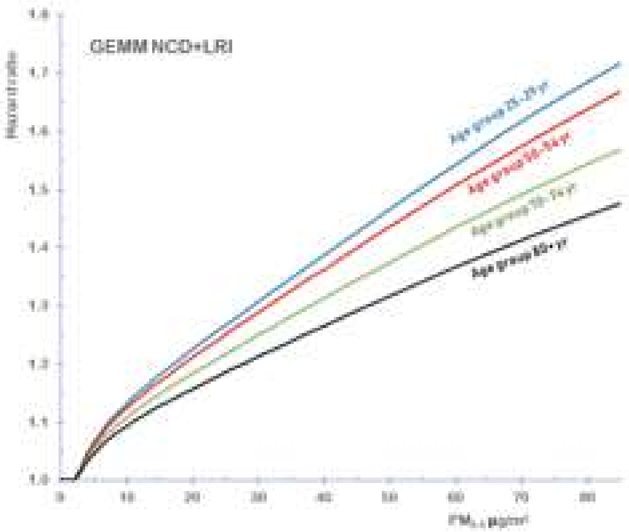
Since the U.S. EPA's most recent Integrated Science Assessment for Particulate Matter, studies in the peer-reviewed scientific literature have helped define the strength of the linear, dose-response relationship between long-term exposure to $PM_{2.5}$ and mortality. In 2018, more than 50 epidemiologists from around the world published in the Proceedings of the National Academy of Sciences updated estimates of the global burden of exposure to $PM_{2.5}$.[5] Examining non-accidental mortality data from 41 cohorts from 16 countries, these epidemiologists found that starting with $PM_{2.5}$ levels above 2.4 $\mu g/m^3$, the incidence of mortality from all nonaccidental deaths – which include deaths from non-communicable diseases (NCD) and lower respiratory infections (LRI) – while varying slightly for different age groups, rose in a linear fashion by approximately 10% for each 10 $\mu g/m^3$ increase in long-term $PM_{2.5}$ in the range of 2.4 - 80 $\mu g/m^3$. See figure below:

---

[3] US Environmental Protection Agency (2009) "Integrated science assessment for particulate matter." At Table 2-2

[4] The above document states: "An important consideration in characterizing the PM-morbidity and mortality association is whether the concentration-response relationship is linear across the full concentration range that is encountered or if there are concentration ranges where there are departures from linearity (i.e., nonlinearity). .... Using a variety of statistical methods, the concentration-response curve was found to be indistinguishable from linear, and, therefore, little evidence was observed to suggest that a threshold exists in the association between long-term exposure to $PM_{2.5}$ and the risk of death (Section 7.6)."

[5] Burnett, R., Chen, H., Szyszkowicz, M., Fann, N., Hubbell, B., Pope, C. A., ... & Coggins, J. (2018). Global estimates of mortality associated with long-term exposure to outdoor fine particulate matter. Proceedings of the National Academy of Sciences, 115(38), 9592-9597.



Studies in the peer-reviewed scientific literature also find robust associations between elevated levels $PM_{2.5}$ and other important health endpoints, including neurological disease and cognitive impairment and diabetes.

In 2016, researchers principally with the Harvard University School of Public Health published a study finding that hospital admissions among the Medicare population from cities in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont and from Washington, D.C. for Parkinson's Disease, Alzheimer's Disease and dementia, rose in a statistically robust fashion by 8%, 15% and 8%, respectively per each 1 $\mu g/m^3$increase in long-term $PM_{2.5}$ regardless of whether air quality in a location met or exceeded the U.S. EPA long-term National Ambient Air Quality Standard of 12 $\mu g/m^3$.[6] In 2018, researchers principally with the Clinical Epidemiology Center, Research and Education Service, VA Saint Louis Health Care System, Saint Louis, Missouri, published a study finding that in a longitudinal cohort of more than 1.7 million U.S. veterans with no previous history of diabetes, the incidence of diabetes rose by 15% per each 10 $\mu g/m^3$ increase in long-term $PM_{2.5}$ regardless of whether air quality in a location met or exceeded the U.S. EPA long-term National Ambient Air Quality Standard of 12 $\mu g/m^3$.[7]

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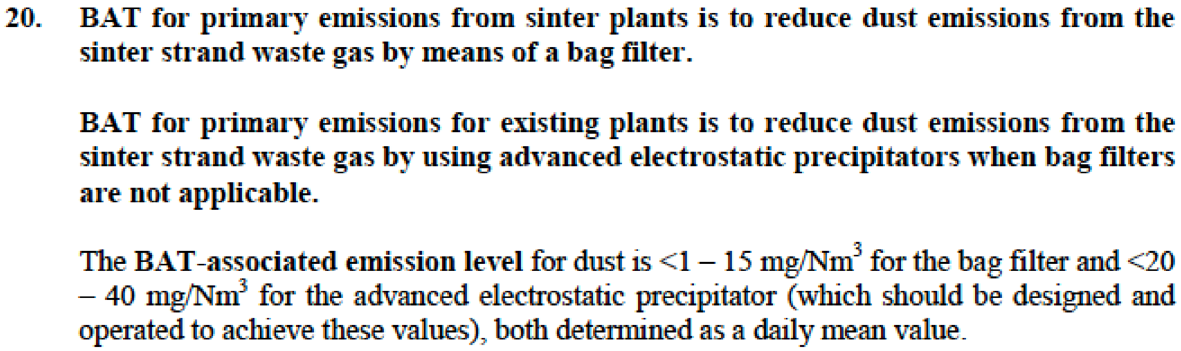
[6] Kioumourtzoglou, M. A., Schwartz, J. D., Weisskopf, M. G., Melly, S. J., Wang, Y., Dominici, F., &Zanobetti, A. (2016). Long-term PM2. 5 exposure and neurological hospital admissions in the northeastern United States. Environmental health perspectives, 124(1), 23-29.

Figure 4.2 on Page C4-12 of the EIA predicts increases in maximum daily levels of $PM_{10}$ *of greater than 0.62* $\mu g/m^3$ *extending several kilometers south and southeast* of Vedanta Limited Sesa Goa's iron plant at Amona. However, presenting the predicted numerical increases in particulate matter is the first-step in a two-step process of understanding how these changes in air quality would impact human health. The second necessary step – not taken by the EIA – is to apply the dose-response relationships between PM levels and health outcomes – mortality, cognitive impairment, diabetes – to the population living where these predicted numerical increases in particulate matter would occur. Without taking this second step, there is inadequate understanding of how many deaths and new cases of Parkinson's Disease, Alzheimer's Disease, dementia and diabetes would result. For this reason, the EIA fails in its objective.

## D. The proposed pollution controls and emission limits are not consistent with international best practice.

In 2013, the European Commission identified air pollutant emission levels associated with use of Best Available Technology for iron and steel production.[8] For sinter plants at iron production plants, the following BAT-associated emission levels were identified.



**20. BAT for primary emissions from sinter plants is to reduce dust emissions from the sinter strand waste gas by means of a bag filter.**

**BAT for primary emissions for existing plants is to reduce dust emissions from the sinter strand waste gas by using advanced electrostatic precipitators when bag filters are not applicable.**

The **BAT-associated emission level** for dust is <1 – 15 $mg/Nm^3$ for the bag filter and <20 – 40 $mg/Nm^3$ for the advanced electrostatic precipitator (which should be designed and operated to achieve these values), both determined as a daily mean value.

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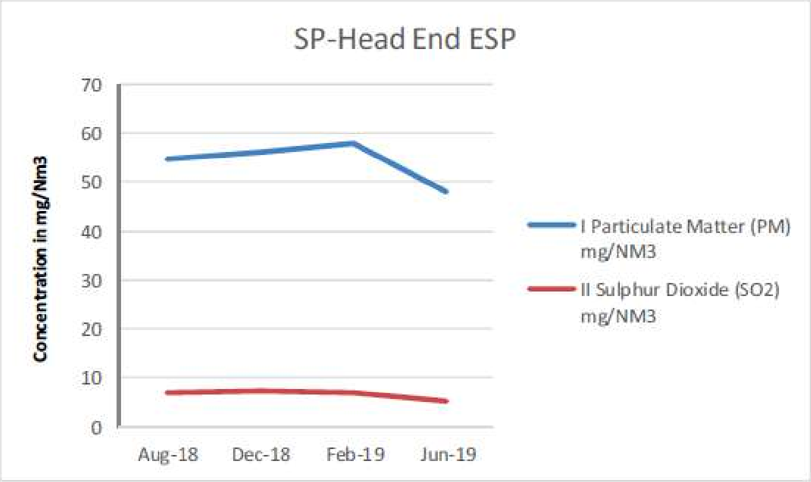
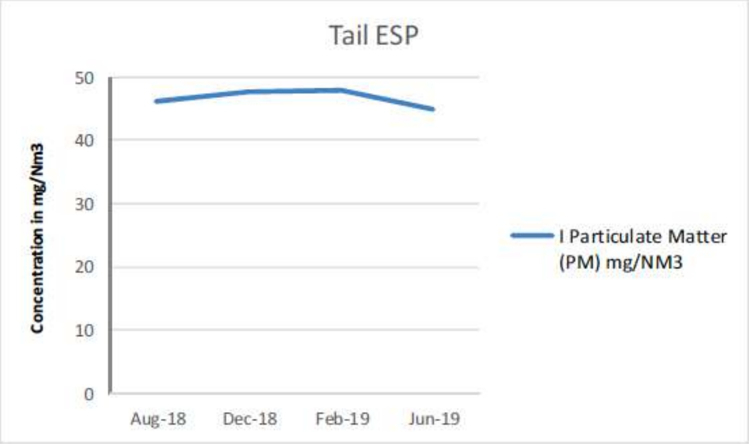
[7] Bowe, B., Xie, Y., Li, T., Yan, Y., Xian, H., & Al-Aly, Z. (2018). The 2016 global and national burden of diabetes mellitus attributable to PM 2· 5 air pollution. The Lancet Planetary Health, 2(7), e301-e312.

[8] European Union (2013) Best Available Techniques (BAT) Reference Document for for Iron and Steel Production.http://publications.jrc.ec.europa.eu/repository/bitstream/JRC69967/lfna25521enn.pdf

Page C4-12 of the EIA shows the following PM emissions from the sinter plant at Vedanta Limited Sesa Goa's iron plant at Amona.





These emissions of PM are well above the Best Available Technology Air Emission Limit of <20-40 mg/Nm$^3$ that apply to sinter plants with ESPs in the European Union.

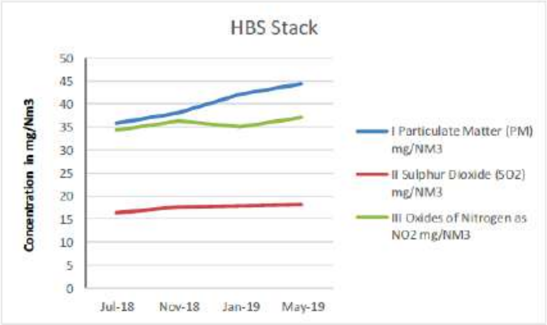
For hot blast furnaces at iron production plants, the following BAT-associated emission levels were identified.

**65. BAT for hot blast stoves is to reduce emissions by using desulphurised and dedusted surplus coke oven gas, dedusted blast furnace gas, dedusted basic oxygen furnace gas and natural gas, individually or in combination.**

The **BAT-associated emission levels**, determined as daily mean values related to an oxygen content of 3 %, are:

- sulphur oxides ($SO_x$) expressed as sulphur dioxide ($SO_2$) <200 mg/Nm$^3$
- dust<10 mg/Nm$^3$
- nitrogen oxides ($NO_x$), expressed as nitrogen dioxide ($NO_2$) <100 mg/Nm$^3$.

Page C4-12 of the EIA shows the following PM emissions from the sinter plant at Vedanta Limited Sesa Goa's iron plant at Amona.



Hot Blast Stoves (HBS)

These emissions of PM are well above the Best Available Technology Air Emission Limit of <10 mg/Nm$^3$ that apply to sinter plants with ESPs in the European Union.

## E. The EIA fails to assess non-carbon based alternatives for iron production

In order to avoid a societal collapse associated with excessive global warming, climate experts are now advising that responding to the climate emergency requires net zero emissions of greenhouse gases by 2030 (not 2050).[9]

Iron and steel production is a major contributor of greenhouse gases, accounting for approximately 5% of total annual global greenhouse gas emissions.[10] Vedanta Limited Sesa Goa’s continued reliance on coal-derived coke for its iron production contributes to the risk of societal collapse associated with excessive global warming.

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[9] Climate Reality Check 2020. https://www.climaterealitycheck.net/

However, means of decarbonizing the steel sector are being commercialized according to these studies in the peer-reviewed scientific literature, demonstrating that hydrogen generated by electrolysis from renewable-electrical energy generation (green hyrdogen) can be used to replace coal in the reduction of iron:

Bhaskar, A., Assadi, M., & Nikpey Somehsaraei, H. N. (2020). Decarbonization of the Iron and Steel Industry with Direct Reduction of Iron Ore with Green Hydrogen. Energies, 13(3), 758.

> “Production of iron and steel releases seven percent of the global greenhouse gas (GHG) emissions. Incremental changes in present primary steel production technologies would not be sufficient to meet the emission reduction targets. Replacing coke, used in the blast furnaces as a reducing agent, with hydrogen produced from water electrolysis has the potential to reduce emissions from iron and steel production substantially.”

Gielen, D., Saygin, D., Taibi, E., &Birat, J. P. (2020). Renewables-based decarbonization and relocation of iron and steel making: A case study. Journal of Industrial Ecology.

> “The article assesses the future role of hydrogen-based iron and steel making and its potential impact on global material flows, based on a combination of technology assessment, material flow analysis, and microeconomic analysis. Renewable hydrogen-based iron production can become the least-cost supply option at a carbon dioxide (CO2) price of around United States dollars (USD) 67 per tonne. Availability of low-cost renewable electricity is a precondition. Australia is the world’s largest producer of iron ore and at the same time a country with significant low-cost renewable electricity potential. A shift to direct reduced iron (DRI) exports could reduce global CO2 emissions substantially and at the same time increase value added in Australia, while maintaining steel production in countries that are currently

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[10] The Bellona Foundation: Steel and emissions: How can we break the link?https://bellona.org/news/ccs/2019-03-is-steel-stealing-our-future

> processing ore into iron and steel, such as China, South Korea, and Japan. The approach could be expanded to other parts of the world and other energy-intensive industry sectors. Such relocation analysis in a climate context can become a new industrial ecology research area. Iron and steel industry CO2 emissions can be reduced by nearly a third, around 0.7 gigatonnes (Gt) CO2 per year. To achieve these emission reductions, investment of USD 0.9 trillion, or 0.7% of the total energy sector investment needs, would be required, global DRI production would have to increase seven-fold from today's level, and the hydrogen energy used would equal 1% of global primary energy supply. Such a shift could develop from 2025 onward at scale, if the right policies are put in place."

In February 2020, industry analysts predicted that by 2025 the price of green hydrogen will fall to $1.5 per kilogram, a price level traditional fossil-fuel-based options.[11] In December of 2020, the Tata Energy Research Institute predicted that the cost of green hydrogen in India "is expected to drop by 50% by 2030 and it can start competing with fossil fuels in certain industrial applications by 2030."[12]

It is therefore a moral imperative that Chapter 5 - Analysis of Alternatives (Technology and Site) – be redrafted to include a careful assessment of rapidly retiring Vedanta Limited Sesa Goa's coke-dependent iron production process in favor of green hydrogen.

In conclusion, the existing plant is already a health hazard to the communities surrounding it. Neither NEERI nor the Board has been able to satisfactorily reduce and eliminate the air pollution, specially reflected in the discharge of graphite. The expansion proposals indicate an enhancement of air pollution levels. The EIA does not indicate the possible impacts of the enhanced load on public health. There is enough scientific data available today which correlates enhanced levels of air pollution with increased morbidity levels and death. If this expansion is allowed, India's commitment to meeting its climate change-related emission goals would be endangered for several decades. The EIA must discuss already proven alternatives.

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[11] Green Tech Media (5 February 2021) "WoodMac on Green Hydrogen: It's Going To Happen Faster Than Anyone Expects." https://www.greentechmedia.com/articles/read/woodmac-on-green-hydrogen-its-going-to-happen-faster-than-anyone-expects?

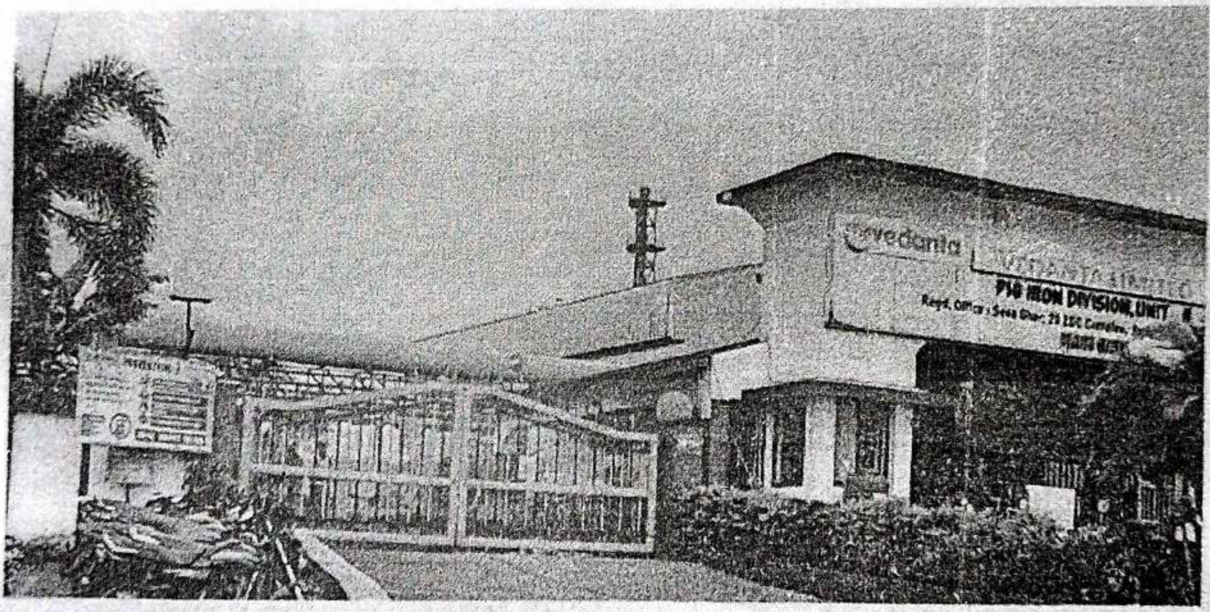
[12] Renewables Now (28 December 2020) "TERI report draws bright future for green hydrogen in India." https://renewablesnow.com/news/teri-report-draws-bright-future-for-green-hydrogen-in-india-726041/

Submitted by the Goa Foundation to the Goa State Pollution Control Board as part of its objections to the expansion proposals of the Vedanta Amona plant.

(Dr Claude Alvares)
Director (20 March 2021).

# Environment Audit Report
# of
# M/s Vedanta Limited

Amona, Bicholim Taluka – Goa 403107



## GOA STATE POLLUTION CONTROL BOARD

Near Pilerne Industrial Estate, Opp. Saligaon Seminary, Saligaon, Bardez, Goa – 403 511

**August 2021**

Information made available [illegible]
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**References:**

A. **GSPCB Office Letter** No.2021/GSPCB/HF/Tech./9452 dated 24/08/2021 to carry out Environmental Audit of M/s Vedanta Limited Located at Amona, Bicholim, Goa for verification of Environmental Compliance and Public Grievances against the unit. (Reference GSPCB Office Letter No. 2021/GSPCB/HF/Tech./9206 dated 20/08/2021).

B. **Environmental Clearance**

Environmental Clearance Letter F. No. J-11011/946/2007-IA.II(I) dated 03.06.2009 for 0.90MTPA Blast Furnace, 2MTPA Sinter Plant, 0.6MTPA Coke Plant and 60MW Waste Heat Recovery Power Plant.

**Amendment in EC**

Letter No. F. No J-11011/946/2007-IA.II(I) dated 07.01.2020 for Compliance to NGT Order.

**Six monthly Report to MoEFCC**

24th Six monthly Report Submission by M/s Vedanta Limited

C. **Consent Orders:**

**For Pig Iron Plant**

No. No.5/364/18-PCB /CI/4727 Date:12/10/2018 valid upto 01/10/2020 and amendment letter no.5/5208/15-PCB/CI-5464/FLM/17465/CI-5585 Date:17/05/2019 valid upto 01/10/2023 for Renewal of Consent to Operate and Authorisation for Survey nos. 30 (Part), 41, 42/1, 27 (Part), Village Amona, P.O. Marcela, Bicholim – Goa for the manufacture of 2,92,200MT/annum Pig Iron and Installation of 01 no. Pulverised Coal Injector Plant.

**Amendment**

No.5/364/18-PCB/CI-4727/FLM/5813/CI-5881 Date: 02/07/2020 to Renewal of Consent to Operate No.5/364/18-PCB/CI-4727 dated 12/10/2018 to maintain and operate air pollution control system of adequate capacity for 3nos. 590kVA capacity DG Sets to achieve 2.52kg/h $SO_2$, 9.2 g/kWh $NO_x$, 1.3g/kWh HC, 3.5g/kWh CO, 0.3g/kWh PM; 6nos. Hot Blast Stoves (HBS) to achieve 250mg/Nm$^3$ $SO_2$, 150 mg/Nm$^3$ $NO_x$, 1% (vol/vol) CO, 50 mg/Nm$^3$ PM; 2nos. 1,80,000 and 1,15,000 Nm$^3$/h capacity Bag Filters to achieve 100 mg/Nm$^3$ PM; 2nos. 173m$^3$ capacity Blast Furnaces and 3nos. DG Sets of 1944kVA capacity to achieve 13.86kg/h $SO_2$ and 75 mg/Nm$^3$ PM.

No.5/364/18-PCB /C-4727/FLM/21749/ Tech/3392 Date:-10/06/2021 to maintain and operate air pollution control system of adequate capacity for 02 nos. Bag Filters of 1,80,000 Nm$^3$/h and 1,15,000 Nm$^3$/hr Capacity to achieve 50 mg/Nm$^3$ PM

**For Sinter Plant**

No.12/2020-PCW557275/R0004287 Date: 24/08/2020 valid upto 14/02/2025 for Renewal of Consent to Operate under Water Act, Air Act, Hazardous and Other Wastes (M and T M) Rules for Survey Nos. 61/1, 61/3, 62, 63/0, 120/1, 120/3, 177 (Part), 205, 206, 207, Village Navelim, Bicholim- Goa for the operation/manufacture of 0.54million tonnes/annum Mini Blast Furnace (for manufacture of Pig Iron) and 1 million tonnes/annum of Sinter.

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**For Waste Heat Recovery Plant-I and Metallurgical Coke Plant**

No. 5/416/95-PCB/CI-5196 Date:27/12/2018 valid upto 31/12/2023 for Renewal of Consent to Operate under Water Act, Air Act, Hazardous and Other Wastes (M and T M) Rules for Survey No.205, 206, 207, 31/1, Part of 177, 44, 43/1, 43/2, 42/1 & 74; Survey no. 207 (Part) of Navelim village and Survey no. 43/1, 44/4, & 44/5 of Amona village, Bicholim – Goa for manufacture of 3,22,000 tons/annum Metallurgical Coke and 33MW generation of power from Waste Heat Recovery Boiler based power plant using Coke Oven Flue Gas and Blast Furnace Gas.

**For Waste Heat Recovery Plant 2 & Coke Oven Plant Expansion**

No. 12/2020-PCW531074/R0004147 Date: 06/07/2020 valid upto 31/12/2024 for Renewal of Consent to Operate under Water Act, Air Act for Survey nos. 205, 207, & 33, Village Surla, Amona, Bicholim, Goa for Generation of 35MW power and 3,00,000 Tons/annum Metallurgical Coke.

**For Amona Barge loading Jetty**

No. 12/2020-PCB/691374/R0005187 Date: 01/01/2021 valid upto 31/12/2025 for Renewal of Consent to Operate for Survey No. 31, 31, 33, 34, 35 Amona Bunder, Amona, Bicholim, Goa for the handling of 2,50,000 MT/year Blast Furnace slag; 2,50,000 MT/year Metallurgical coke; 2,50,000 MT/year Sinter 2,00,000 MT/year; Pig Iron & skull 4,00,000 MT/year; Barge loading jetty 2,97,000 MT/year

**For Beneficiation Plant 1A & Dry Screening Plant 1B & 1C**

No. 12/2019-PCB/114079/R000975 valid upto 19/05/2024 for Survey nos. 36/3, 36/1, 42/1 (P), 43/1 (P), 43/2 (P), 38, 39 (P), 37 (P), 205 (P), 206 (P) & 196 (P), Villages Amona & Navelim, Bicholim – Goa for the activity of 4.5 MTPA Beneficiation of Iron Ore Fines & Lumps - 1A; 4.0 MTPA Crushing & Screening Plant- 1B; 4.0 MTPA Crushing & Screening Plant - 1C.

**For Installation and Operation of Bag House for extraction of dust from Blast Furnace 2**

No.12/2020-PCB/519134/R0004102 Date: 18/08/2020 valid up to 16/06/2025 for Survey nos. 30 (Part), 41, 42/1, 27 (Part), Village Amona, P.O. Marcela, Bicholim -Goa for Installation and Operation of 01 no. Bag House for extraction of dust from Blast Furnace 2.

**Amendment**

No.12/2020-PCB/519134/R0004102/Made-257 Date:-10/06/2021 to maintain and operate the air pollution control system of 1,90,000 Nm$^3$/hr BF#2 bag filters to achieve 50 mg/Nm$^3$ PM.

**For Operation of Bag House for extraction of dust at the Coke Oven Screening Plant**

No.12/2020-PCB/554314/R0004278 Date: 15/09/2020 valid upto 15/09/2021 for Survey nos.205, 206, 207, 31/1, Part of 1 77, 44, 43/1, 43/2, 42/1&74, 207 (Part) of Navelim Village & Survey no. 43/1, 44/4 & 44/5 of Amona Village, Bicholim – Goa for Operation of 01no Bag House for the extraction of dust at the Coke Screening Plant.

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**Amendment**

No.3/364/18-PCB/CI-4727/FLM/21749/Tech/3394 Date:-10/06/2021 to maintain and operate the air pollution control system of 81,000 Nm³/hr Capacity Coke Screening plant bag house to achieve 50 mg/Nm³ PM.

**For Coke Briquetting Plant**

No.12/2020-PCB/694369/R0005222 Date: 08/02/2021 valid up to 22/10/2025 for Survey nos. 205, 207, & 33, Village Navelim, Bicholim Goa for operation of 20,000 MT/annum Coke Briquetting Plant.

### D. GSPCB Interim Report

Interim Report on The Implementation of Measure as Directed By The Hon'ble High Court vide Order Dated 04/12/2019 Passed in Writ Petition 881/2017 (M/S. Vedanta Ltd; Pig Iron Plant-Amona)

### E. NEERI's REIA 2008

Rapid Environmental Impact Assessment of Pig Iron Plant of M/s Sesa Industries Ltd., Amona, Goa carried out by NEERI, Nagpur in December 2008.

### F. Site Visit of Expert Committee

Site visit to M/s Vedanta Limited, Amona, Bicholim, Goa 403107 on 30/08/2021 and 31/08/2021.

### G. Discussions with Site Officials

Discussions with M/s Vedanta Limited officials on 30/08/2021 and 31/08/2021.

### H. Documentation received

Documentation received from M/s Vedanta Limited.

### I. Pictures of various installations

Pictures taken during site visit of M/s Vedanta Limited site and Pictures provided by M/s Vedanta Limited.

### J. Analysis Reports.

Analysis Reports of M/s Vedanta and GSPCB

### K. Google images.

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**The Expert Committee** comprised of:

a. Shri J. S. Kamyotra, Member EAC of MoEFCC for Industry Sector-1, ex MS CPCB
b. Mr. Hemant Rane, Waste Management Consultant, ex Corporate Environment Advisor-Novartis India Limited, Mumbai
c. Mr. Sanjay Amonkar, Sr. Consultant, ex Jt. GM-ZACL Goa
d. Mrs. Jenica Sequeira, Scientist D, GSPCB
e. Dr. Mohan Girup, Scientist C, GSPCB
f. Mr. Ganpat Naik, Scientist B, GSPCB
g. Mrs. Nandan Prabhudessai, Assistant Environmental Engineer, GSPCB
h. Mr. Pravin Faldessai, Junior Environmental Engineer, GSPCB
i. Mr. Waman Chari, Scientific Assistant, GSPCB

**M/s Vedanta Limited Representatives**

a. Mr. Saptesh Sardesai, Director VAB and Head of Site,
b. Mr. Jagdish Desai, Head of HSE,
c. Ms. Vandita Korgaonkar, Executive HSE,
d. Mr. Roshan, Head of Blast Furnace,
e. Mr. Borkar, Head of Met Coke,
f. Mr. Ashish, Energy Manager,
g. Mr. Audumbar, Water Management

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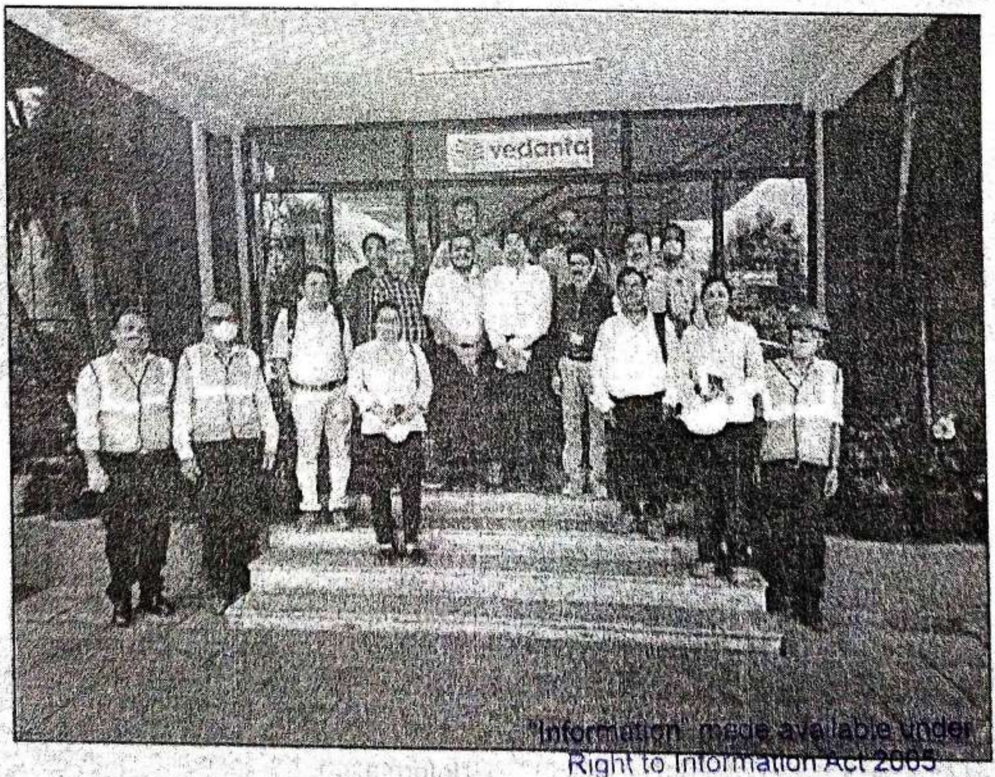
## GSPCB Expert Committee Team members

Picture 1: GSPCB Expert Committee Team members

## Audit Team members including M/s Vedanta Limited Team

Picture 2: Audit Team members including M/s Vedanta Limited Team



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## Summary and Conclusions of Environment Audit of M/s Vedanta Limited

Site Visit of Expert Committee to M/s Vedanta Limited was concluded on 30/08/2021 and 31/08/2021.

Based on site observation, discussions with site management and review of documents the following inferences are drawn.

* There are 4 different Consents to Operate prescribing similar conditions for M/s Vedanta Limited Amona site. It is necessary that M/s Vedanta Limited obtain One Single Amalgamated Consent to Operate for the entire site which will facilitate GSPCB to properly monitor Environmental Compliances by the site.
* All the 4 Consents to Operate are Valid for the Consented period and there is No Non-Compliance.
* It was observed from Form V Environment Statement for the years 2018-2019, 2019-2020 and 2020-2021 for all 4 Plants that the manufacturing quantities prescribed under Condition 2 of the Consent to Operate were within the Consented quantity and there is No Non Compliance.
* M/s Vedanta Limited complies with Condition 3 of Consent to Operate for Pig Iron Plant, Sinter Plant and Met Coke Plant by recycling the wastewater back into process and the Cooling Tower Blowdown from WHR Plant-2 is discharged to Mandovi River. The details of discharge into Mandovi River as prescribe under Condition 3.(v) could not be verified.
* M/s Vedanta Limited should submit details of Cooling Tower Blow down into Mandovi River as prescribe under Condition 3.(v) of the Consent to Operate.
* The On-line Continuous Effluent Monitoring System provided on Cooling Tower Blow down discharge Pipeline is operational but the values are displayed only when the blow down discharge pump is in operation.
* PID1 wastewater treatment by addition of polyelectrolyte and settling of solids was observed to be lacking in consideration to Thickener process as well without any measurements. The site can improve the quality of treated effluent for recycle as well as obtain additional solids for recycle if the Thickener process is scientifically operated. This will also lead to 100% recycle of treated water.
* Prescribed Conditions under Condition 4 of Consent to Operate were observed to be followed w.r.t. Control Equipment and Stack. Stack Monitoring, Noise and Ambient Air Monitoring is carried out through MoEFCC recognised Agency however, it was observed that some Air Pollution Control Devices require upgradation..
* The CAAQMS as well as CEMS were observed to be showing erratic results, may be due to incomplete commissioning at the time of site visit, therefore M/s Vedanta Limited must ensure correct calibration of CAAQMS and CEMS measuring instruments and provide connectivity to GSPCB as well as CPCB at the earliest.
* The Display of values in ppm and mg/Nm$^3$ for $SO_2$ and $NO_x$ for Coke Oven Boiler Stack CEMS require correction since correct Conversion Factor has not been applied for.
* Since CAAQMS at BF3 area is surrounded by some vegetation there is a need to regularly clear & trim this vegetation growth for proper collection of data.
* Performance Evaluation Report of Air Pollution Control Devices carried out by M/s Gadark Laboratory describes manufacturing process but does not describe the Sampling Methodology, Sampling Locations, Sampling Ports, Sampling Equipment, Analytical procedures, Calculations and therefore this report appears to have been prepared for the sake of compliance. M/s Vedanta Limited must carry out systematic and scientific measurements to establish factual performance of Air Pollution Control Devices.

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- With reference to Condition 4 x) of Met Coke Consent to Operate, M/s Vedanta Limited have established 6 Ambient Air Quality Monitoring Stations on the premises.
- From the review of Form 4 Hazardous Waste Annual Returns for the year 2019-2020 and 2020-2021 it is observed that the quantity of Hazardous Waste Generated and disposed w.r.t. Category 5.1, 5.2 and 33.3 was within the Authorised quantity however, Category 35.2 has not been reported in Form 4 for Met Coke and WHR Plant-2. It was informed that the GSPCB system does not accept NIL value of waste.
- Since the Hazardous Waste quantities reported are much less than the applied and authorised quantities, GSPCB should seek an explanation from M/s Vedanta Limited for these low quantities and issue an amended with lower quantities as reported in Form 4.
- With reference to Condition 5.(xii) for Pig Iron Plant, Sinter Plant and Met Coke Plant as well as Condition 5.x) for Waste Heat Recovery Plant-2, there is a Display Board put up at the Pig Iron Plant Gate but during the visit it was observed that the details of display were not visible since display board work was in progress. The site has to ensure operation of the Display Board at the earliest.
- With reference to Additional Conditions in Amended Environmental Clearance,
  - → Although it is claimed that Storm water drains are provided for channelising the storm water into the settling ponds but these are not constructed storm water drains and are only dug up channels. The settling ponds are also dug up ponds without any civil construction. At BF1 and BF2 area there are storm water drains but are not quite visible. All storm water drains and Settling Ponds may be properly constructed or provided with internal waterproof plaster.
  - → Although Bag Filters are provided to control the secondary emissions with the hoods at the emission sources, there are still fugitive emissions which are visible at work places. There is a need to evaluate the situation correctly and provide additional hoods to avoid escape of fugitive emissions from work places.
  - → Performance evaluation of Air Pollution Control Devices had been carried out by MoEFCC accredited Lab and report submitted to GSPCE and CPCB. It was found that the report describes the manufacturing processes and does not describe Sampling methodology, sampling locations, Sample analysis procedures hence this report is not acceptable and the site must carry out scientific measurement of APCD efficiency again.
  - → Monitoring of $NO_2$ levels at 6 Locations and CO at multiple locations is done weekly and reports are submitted to GSPCB hence is not a Non-Compliance. However, it was noted that the Wind Direction, Wind Speed and Relative Humidity during the sampling dates of the month was unchanged and hence the reports need to be properly checked every time.
  - → 33 % of dedicated green belt area has been marked within the premises and every year plantation is taken up in the monsoon season to increase the density. Site has planted local species of trees within the project boundary areas adjoining villages as per CPCB guideline. This year ~7500 saplings of native species were planted under Miyawaki technique at site.

J.S. Kamyotra | Hemant Rane | Sanjay Amonkar

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Sequeira
Jenica Sequeira

Dr. Mohan Girup

Ganpat Naik

Nprabhudessai
Nandan Prabhudessai

P Dessai
Pravin Faldessai

Waman Chari

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## Environment Audit Report of M/s.Vedanta Limited, Amona Goa

## Summary and Conclusions of Environment Audit of M/s. Vedanta Limited

Site Visit of Expert Committee to M/s. Vedanta Limited was concluded on 30/08/2021 and 31/08/2021

Based on site observation, discussions with site management and review of documents the following inferences are drawn.

- There are 4 different Consents to Operate prescribing similar conditions for M/s. Vedanta Limited Amona site. It is necessary that M/s. Vedanta Limited obtain One Single Amalgamated Consent to Operate for the entire site which will facilitate GSPCB to properly monitor Environmental Compliances by the site.

- All the 4 Consents to Operate are Valid for the Consented period and there is No Non-Compliance.

- It was observed from Form V Environmental Statement for the years 2018-19, 2019-2020 and 2020-2021 for all 4 Plants that the manufacturing quantities prescribed under Condition 2 of the Consent to Operate were within the Consented quantity and there is No Non Compliance.

- M/s. Vedanta Limited complies with Condition 3 of Consent to Operate for Pig Iron Plant, Sinter Plant and Met Coke Plant by recycling the wastewater back into process and the Cooling Tower Blowdown from WHR Plant-2 is discharged to Mandovi River. The details of discharge into Mandovi River as prescribed under Condition 3(v) could not be verified.

- M/s. Vedanta Limited should submit details of Cooling Tower Blow down into Mandovi River as prescribed under Condition 3 (v) of the Consent to Operate.

- The On-line Continuous Effluent Monitoring System provided on Cooling Tower Blow down discharge Pipeline is operational but the values are displayed only when the blow down discharge pump is in operation.

- P1D1 wastewater treatment by addition of polyelectrolyte and settling of solids was observed to be lacking in consideration to Thickener process as well without any measurements. The site can improve the quality of treated effluent of recycle as well as obtain additional solids for recycle if the Thickener process is scientifically operated. This will also lead to 100% recycle of treated water.

- Prescribed Conditions under Condition 4 of Consent to Operate were observed to be followed w.r.t. Control Equipment and Stack. Stack Monitoring, Noise and Ambient Air Monitoring is carried out through MoEFCC recognised Agency however, it was observed that some Air Pollution Control Devices require upgradation.

- The CAAQMS as well as CEMS were observed to be showing erratic results, may be due to incomplete commissioning at the time of site visit, therefore M/s. Vedanta Limited must ensure correct calibration of CAAQMS and CEMS measuring instruments and provide connectivity to GSPCB as well as CPCB at the earliest.

- The Display of values in ppm and mg/Nm3 for SO2 and NOx for Coke Oven Boiler Stack CEMS require correction since correct Conversion Factor has not been applied for.

- Since CAAQMS at BF3 area is surrounded by some vegetation there is a need to regularly clear and trim this vegetation growth for proper collection of data.

- Performance Evaluation Report of Air Pollution Control Devices carried out by M/s. Gadark Laboratory describes manufacturing process but does not describe the Sampling Methodology, Sampling Locations, Sampling Ports, Sampling Equipment, Analytical procedures, Calculations and therefore this report appears to have been prepared for the sake of compliance. M/s. Vedanta Limited must carry out systematic and scientific measurements to establish factual performance of Air Pollution Control Devices.

- With reference to Condition (x) of Met Coke Consent to Operate, M/s. Vedanta Limited have established 6 Ambient Air Quality Monitoring Stations on the premises.

- From the review of Form 4 Hazardous Waste Annual Returns for the year 2019-2020 and 2020-2021 it is observed that the quantity of Hazardous Waste Generated and disposed w.r.t Category 5.1, 5.2 and 33.3 was within the Authorised quantity however Category 35.2 has not been reported in Form 4 for Met Coke and WHR Plant-2. It was informed that the GSPCB system does not accept NIL value of waste.

- Since the Hazardous Waste quantities reported are much less than the applied and authorised quantities, GSPCB should seek and explanation from M/s. Vedanta Limited for these low quantities and issue an amended with lower quantities as reported in Form 4.

- With reference to Condition 5 (xii) for Pig Iron Plant, Sinter Plan and Met Coke Plant as well as Condition Six) for Waste Heat Recovery Plant 2, there is a Display Board put up at the Pig Iron Plant Gate but during the visit it was observed that the details of display were not visible since display board work was in progress. The site has to ensure operation of the Display Board at the earliest.

- With reference to Additional Conditions in Amended Environmental Clearance,
    - ➢ Although it is claimed that Storm Water drains are provided for channelizing the storm water into the settling ponds but these are not constructed storm water drains and are only dug up channels. The settling ponds are also dug up ponds without any civil construction. At BF1 and BF2 area there are storm water drains but are not quite visible. All storm water drains and Settling Ponds may be properly constructed or provided with internal water proof plaster.

    - ➢ Although Bag Filters are provided to control the secondary emissions with the hoods at the emission sources, there are still fugitive emissions which are visible at work places. There is a need to evaluate the situation correctly and provide additional hoods to avoid escape of fugitive emissions from work places.

    - ➢ Performance evaluation of Air Pollution Control Devices had been carried out by MoEFCC accredited Lab and report submitted to GSPCB and CPCB. It was found that the report describes the manufacturing processes and does not describe Sampling methodology sampling locations, Sample analysis procedures hence this report is not acceptable and the site must carry out scientific measurement of APCB efficiency again.

- Monitoring of NO2 levels at 6 Locations and CO at multiple locations is done weekly and reports are submitted to GSPCB hence is not a Non-Compliance. However it was noted that the Wind Direction, Wind Speed and Relative Humidity during the sampling dates of the month was unchanged and hence the reports need to be properly checked everytime.

- 33% of dedicated green belt are has been marked within the premises and every year plantation is taken up in the monsoon season to increase the density. Site has planted local species of trees within the project boundary areas adjoining villages as per CPCB guideline. This year 7500 saplings of native species were planted under Mryawaki technique at site.

| | | |
|---|---|---|
| [Sd/-] | [Sd/-] | [Sd/-] |
| J.S. Ramyotra | Hemant Rane | Sanjay Amonkar |

August 2021

**ANNEXURE 12**

[Typed copy at pgs. 261 - 266]

**GOA STATE POLLUTION CONTROL BOARD**

**गोंय राज्य प्रदूषण नियंत्रण मंडळ**

**(An ISO 9001-2015, ISO 14001:2015, ISO 45001:2018 Certified Board)**

Phone Nos. : 0832-2407700
2407701, 2407702
2407703

Tel/Fax No. : 0832-2407700

Email Ids:
Chairman, GSPCB: chairman-gspcb.goa@nic.in
Member Secretary GSPCB: ms-gspcb.goa@nic.in
Office: mail.gspcb@gov.in

*By Speed Post*

No. 1/25/21-PCB/Tech/18173 Date: 14 /01/2022

**DIRECTIONS UNDER SECTION 33(A) OF THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974 AND UNDER SECTION 31(A) OF THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981.**

**WHEREAS**, in terms of the decision taken by the Board at its 144th meeting held on 06/07/2020 under Environmental Audit Scheme, the Board through its officials and expert members conducted an Environmental Audit of your unit namely M/s Vedanta Limited, located at Amona, Bicholim Goa, engaged in manufacturing of **installation and operation of Bag House for extraction of dust from Blast Furnace 2, Coke Briquetting Plant, Generation of Power, Metallurgical Coke, manufacture of Metallurgical Coke, Operation of four nos. loading and unloading grabs, Operation of Stamp Charging Plant, Operation of Coke drying and grinding plant, Generation of power from Waste Heat Recovery boiler based power plant using Coke Oven Flue Gas (COFG) and Blast Furnace Gas(BFG), Operation of Bag House for extraction of dust at the Coke Screening Plant, Mini Blast Furnace (for the manufacture of Pig Iron, Sinter, Pig Iron, Installation of Pulverized Coal Injector Plant.**

**WHEREAS**, the report of the Environmental Audit contains various observations and recommendations.

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Goa State P

A Copy of the Environmental Audit report dated 30/08/2021 & 31/08/2021 is enclosed herewith.

**WHEREAS,** the report of the Environmental Audit has been placed before the Board at its 149th Board meeting held on 21st December 2021, during which the Board has recommended to direct the unit to comply with observations made in the Audit Report.

*Copy of the relevant extract of the 149th Board Meeting is enclosed*

**WHEREAS,** the Board at its 135th meeting held on 02/11/208 has delegated its powers to issue, refuse, withdraw and vary consent under section 25, 26 and 27 of the Water Act and under section 21 of the Air Act and to issue showcause notices and directions under section 33A of Water Act and 31A of Air Act to the undersigned.

**NOW THEREFORE,** in light of the above and in exercise of the powers vested with the undersigned under section 33(A) read with section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 31(A) read with section 21 Air (Prevention and Control of Pollution) Act, 1981, the management of M/s Vedanta Limited is hereby directed to;

a. **Improve the quality of treated effluent for recycle as well as obtain additional solids for recycle with scientific operation of the Thickener process, at Pig Iron division & waste water treatment system.**

b. **Upgrade Air Pollution Control Devices of Pig Iron manufacturing & Metcoke divisions which are inefficient.**

c. **Upgrade Material of Construction of Filter Bags to PTFE Teflon Dust Collection Bags in Bag Filters.**

d. **Regularly clear & trim vegetation growth for proper collection of ambient air quality data.**

e. **Carry out systematic and scientific measurements to establish factual performance of Air Pollution Control Devices. Ensure correct isokinetic sampling of particulate matter**

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**at Inlet and Outlet of APCD by collecting samples at defined distances and at defined angle in the duct based on Duct diameter or Duct dimension.**

f. **Ensure all time operation of the Electronic Display Board at the gate integrating correct values w.r.t. Consent to Operate**

g. **Ensure that all storm water drains and Settling Ponds are properly constructed or provided with internal waterproof plaster.**

h. **Evaluate the situation correctly at work places at BF1 and BF2 and provide additional hoods similar to BF3 to avoid escape of fugitive emissions especially graphite particles from work place.**

i. **Check all ambient air monitoring reports received from 3rd party and ensure that the Wind Direction, Wind Speed and Relative Humidity on the sampling dates of the month are correctly reported.**

j. **Ensure 33 % of dedicated green belt area within the premises with new additional plantation every year to increase the density of green belt.**

**FURTHER,** the management of M/s Vedanta Limited is hereby directed to appear before the Member Secretary of the Goa State Pollution Control Board on 27th January 2022 at 3.00 P.M., vide video conference on the following link *(meet.google.com/wdr-nkdm-kof)*, in order to present the proposed Action Plan/Compliance with Specific Timelines in respect of the aforesaid directions.

**TAKE NOTE,** that failure to comply with the aforesaid directions will compel the Board to initiate stringent legal action against you under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981, without as further notice.

Issued on this 14th day of January, 2022

**Dr. Shamila Monteiro**
**(Member Secretary)**
**Goa State Pollution Control Board**

"Information" made available under
Right to Information Act 2005

PIO /APIO
Goa State Pollution [illegible] Saligao [illegible]

**To,**
**M/s Vedanta Limited,**
**Sesa Ghor, Patto Panaji Goa**

Copy to,

1. The Member Secretary- GSPCB... with a request to remain present for the same.
2. SEE- GSPCB... to remain present for the same.
3. Scientist 'D'... to remain present for the same.
4. L.O... to remain present for the same.
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Goa State Pollution Control Board Saligao Goa

# MINUTES OF THE 149th MEETING OF THE GOA STATE POLLUTION CONTROL BOARD HELD ON 21st, December, 2021 AT 3.00 pm IN THE CONFERENCE HALL OF THE BOARD.

I. The 149th meeting of the Goa State Pollution Control Board was held on **21st, December, 2021at 3.00 pm** in the Conference hall of the Board.

The following members attended the meeting:

| | |
|---|---|
| 1. | Mr. Ganesh B. Shetgaonkar, Chairman |
| 2. | Chief Engineer, Water Resource Dept. was represented by Mrs. Sushma S. Shirodkar, Assistant Surveyor of Works. |
| 3. | Director of Mines was represented by Mr. Sanford Mascarenhas, Assistant Geologist. |
| 4 | Director of Health Services was represented by Dr.Anuja Naik |
| 5. | Mr. Nilesh Shah, President, Travel and Tourism Association of Goa, 609, Dempo Towers, Patto Plaza, Panaji Goa. |
| 6. | Ms. Unnati Sahastrabhudhe, Panch Member, Village Panchayat Velguem, House no. 309/3, Vandamol. Velguem , Bicholim Goa |
| 7. | Mr. Sanjay Naik, Panch Member, Village Panchayat Sanvordem |
| 8. | Mr. Atul Jadhav, Chairman, Confederation of Indian Industries |
| 9 | Goa Tourism Development Corporation was represented by General Manager |
| 10. | Dr. (Mrs.) Shamila Monteiro, Member Secretary |

At the outset the Member Secretary, Goa State Pollution control Board welcomed the Chairman and the Members for the 149th meeting of the Board and with the permission of the chair took up the Agenda items for discussion and deliberation.

True Copy

**Agenda item no. 1**
Confirmation of the minutes of the 148th meeting of the Goa State Pollution Control Board held on 07/09/2021.

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Goa State Pollution Control Board Saligao Goa

| | | |
|---|---|---|
| | | Therefore:<br>EC=PI x N x R x S x LF<br>=50 x 104 x 250 x 0.5 x 1<br>=6,50,000/- |

Till date Board has not issued any correspondence to pay PPP fines to the unit , however unit has paid advance PPP fines of Rs.5.00.000/-.

**The Board had decided that the unit should be directed to pay the environmental compensation as finalized by the Board as per the NGT mandated formula.**

**Table item no. 3:**
Member Secretary informed the members that the Board had proposed to carry out Environmental Audit of M/s. Vedanta Ltd., Amona, Bicholim Goa for verification of Environmental compliance and Public grievances against the unit. Site visit of Expert Committee was held on 30/08/2021 and 31/8/2021. The Board is now in receipt of Environmental Audit Report of M/s. Vedanta Ltd., Amona, Bicholim Goa.

**After deliberation members decided that the Board should direct the unit to comply with the observations made in the Audit Report and the report should be placed before the Hon. High Court.**

**Table item no. 4:**
Member Secretary informed the members that the following study/projects needs to be undertaken by the Board:-

1. Analysing the waste treatment process of hotels using septic tank/soak pit for the disposal of the waste water including the size and design, challenges in the disposal of the waste water in areas having high ground water levels, exploring alternate viable waste water disposal processes.
2. Empanelment of the vendors and manufacturers of the sewage treatment plants and effluent treatment plans processing of the applications for empanelment, carrying out of audit and site inspection of empanelled vendors/manufactures along with the members of the expert committee dealing with the empanelment process.
3. Implementation of the GIS platform for the use of the available data generated from the online continuous ambient air quality monitoring, online continuous stack monitoring and continuous effluent monitoring.

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# GOA STATE POLLUTION CONTROL BOARD

No. 1/25/21-PCB/Tech/18173 Date: 14/01/2022

DIRECTIONS UNDER SECTION 33(A) OF THE WATER (PREVENTION AND CONTROL OF POLLUTION ACT, 1974 AND UNDER SECTION 31(A) OF THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981.

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WHEREAS the report of the Environment Audit contains various observations and recommendations.

A Copy of the Environmental Audit report dated 30/08/2021 & 31/08/2021 is enclosed herewith.

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**FURTHER,** the management of M/s Vedanta Limited is hereby directed to appear before the Member Secretary of the Goa State Pollution Control Board on 27th January 2022 at 3.00 P.M., vide video conference on the following link *(meet.google.com/wdr-nkdm-kof)*, in order to present the proposed Action Plan/Compliance with Specific Timelines in respect of the aforesaid directions.

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Issued on this 14th day of January, 2022

**Dr. Shamila Monteiro**
**(Member Secretary)**
**Goa State Pollution Control Board**

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PIO /APIO

**To,**
**M/s Vedanta Limited,**
**Sesa Ghor, Patto Panaji Goa**

Copy to,

1. The Member Secretary- GSPCB... with a request to remain present for the same.
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The following members attended the meeting:

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| 1. | Mr. Ganesh B. Shetgaonkar, Chairman |
| 2. | Chief Engineer, Water Resource Dept. was represented by Mrs. Sushma S. Shirodkar, Assistant Surveyor of Works. |
| 3. | Director of Mines was represented by Mr. Sanford Mascarenhas, Assistant Geologist. |
| 4 | Director of Health Services was represented by Dr.Anuja Naik |
| 5. | Mr. Nilesh Shah, President, Travel and Tourism Association of Goa, 609, Dempo Towers, Patto Plaza, Panaji Goa. |
| 6. | Ms. Unnati Sahastrabhudhe, Panch Member, Village Panchayat Velguem, House no. 309/3, Vandamol. Velguem , Bicholim Goa |
| 7. | Mr. Sanjay Naik, Panch Member, Village Panchayat Sanvordem |
| 8. | Mr. Atul Jadhav, Chairman, Confederation of Indian Industries |
| 9 | Goa Tourism Development Corporation was represented by General Manager |
| 10. | Dr. (Mrs.) Shamila Monteiro, Member Secretary |

At the outset the Member Secretary, Goa State Pollution control Board welcomed the Chairman and the Members for the 149th meeting of the Board and with the permission of the chair took up the Agenda items for discussion and deliberation.

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| | | |
|---|---|---|
| | | Therefore:<br>EC=PI x N x R x S x LF<br>=50 x 104 x 250 x 0.5 x 1<br>=6,50,000/- |

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**The Board had decided that the unit should be directed to pay the environmental compensation as finalized by the Board as per the NGT mandated formula.**

**Table item no. 3:**
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**After deliberation members decided that the Board should direct the unit to comply with the observations made in the Audit Report and the report should be placed before the Hon. High Court.**

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1. Analysing the waste treatment process of hotels using septic tank/soak pit for the disposal of the waste water including the size and design, challenges in the disposal of the waste water in areas having high ground water levels, exploring alternate viable waste water disposal processes.
2. Empanelment of the vendors and manufacturers of the sewage treatment plants and effluent treatment plans processing of the applications for empanelment, carrying out of audit and site inspection of empanelled vendors/manufactures along with the members of the expert committee dealing with the empanelment process.
3. Implementation of the GIS platform for the use of the available data generated from the online continuous ambient air quality monitoring, online continuous stack monitoring and continuous effluent monitoring.

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**ANNEXURE 13** [Relevant extract]

**Ministry of Environment, Forest and Climate Change**
**Impact Assessment Division**
**(Industry-1 Sector)**

**Date of zero draft MoM sent to Chairman: 02/01/2022**
**Approval by Chairman: 06/01/2022**
**Uploading on PARIVESH: 06/01/2022**

**Summary record of the fiftieth (50th) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 29th December, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.**

The fiftieth meeting of the Expert Appraisal Committee (EAC) for Industry-1 Sector constituted as per the provisions of the EIA Notification, 2006 for Environment Appraisal of Industry-1 Sector Projects was held on **29th December, 2021** in the Ministry of Environment, Forest and Climate Change (MoEF&CC) through **video conferencing** in view of the ongoing Corona Virus Disease (Covid-19) pandemic. The list of EAC attendees is as follows:

| S. No. | Name | Position | 29/12/2021 |
|---|---|---|---|
| 1. | Dr. Chhavi Nath Pandey | Chairman | Present |
| 2. | Dr. Kawaljeet Singh,<br>Scientist 'E', CPPRI. | Member | Present |
| 3. | *Dr. Siddharth Singh,<br>Scientist 'E', IMD.* | *Member* | *Absent* |
| 4. | Dr. Jagdish Kishwan | Member | Present |
| 5. | Dr. Tejaswini Ananth Kumar | Member | Present |
| 6. | *Dr. G.V. Subramanyam* | *Member* | *Absent* |
| 7. | Shri. Ashok Upadhyaya | Member | Present |
| 8. | Shri. Rajendra Prasad Sharma | Member | Present |
| 9. | *Dr. Sanjay Deshmukh* | *Member* | *Absent* |
| 10. | Prof. S.K. Singh | Member | Present |
| 11. | *Dr. R. Gopichandran* | *Member* | *Absent* |
| 12. | Shri Jagannadha Rao Avasarala | Member | Present |
| 13. | Shri. J.S. Kamyotra | Member | Present |
| **Officials from MoEF&CC** | | | |
| 14. | Shri. Sundar Ramanathan | Member Secretary | Present |
| 15. | Dr. Sandeepan B.S. | Scientist 'B' | Present |

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 49th meeting held during 16-17th December, 2021 were confirmed by the EAC as already uploaded on PARIVESH except the following:

**A. Item No. 49.4**

| Minutes uploaded on PARIVESH | To be read as |
|---|---|
| **Para no 49.4.24 A. Specific condition i.**<br>2571 KLD water shall be drawn from Karo River located at 4.7 km from plant site. No | **Para no 49.4.24 A. Specific condition i.**<br>2571 KLD of water requirement shall be met from ground water sources after approval by |

True copy

| Minutes uploaded on PARIVESH | To be read as |
|---|---|
| ground water abstraction is permitted. | the concerned competent authority. Surface water sources like rain water harvested water and water withdrawal from Karo river shall be explored and action plan in this regard shall be submitted to the Regional Office of the MoEF&CC for gradual phase out of ground water in a time frame of three years from the date of issue of EC. |
| **Para no 49.4.24 A. Specific condition iii.**<br>Govt. Of Odisha has allocated 6.72 cusec and 5.98 cusec of water from Karo river for Karakolha Steel plant and Karakhendra Steel plant respectively. The raw water shall be brought to the plant in separate pipe lines, treated in respective plants and distributed in the process. The treatment of water and sludge management shall be carried out by Karakolha steel plant. | **Para no 49.4.24 A. Specific condition iii.**<br>This condition stands deleted as the water requirement for the expansion project is reduced due to change in scope of the project. |

**B. Item No. 49.5**

| Minutes uploaded on PARIVESH | To be read as |
|---|---|
| **Para no 49.5.24 A. Specific condition i.**<br>1920 KLD water shall be drawn from Karo River located at 5.1 km from plant site. No ground water abstraction is permitted except for domestic consumption. | **Para no 49.5.24 A. Specific condition i.**<br>1920 KLD of water requirement shall be met from ground water sources after approval by the concerned competent authority. Surface water sources like rain water harvested water and water withdrawal from Karo river shall be explored and action plan in this regard shall be submitted to the Regional Office of the MoEF&CC for gradual phase out of ground water in a time frame of three years from the date of issue of EC. |
| **Para no 49.5.24 A. Specific condition iii.**<br>Govt. Of Odisha has allocated 6.72 cusec and 5.98 cusec of water from Karo river for Karakolha Steel plant and Karakhendra Steel plant respectively. The raw water shall be brought to the plant in separate pipe lines, treated in respective plants and distributed in the process. The treatment of water and sludge management shall be carried out by Karakolha steel plant. | **Para no 49.5.24 A. Specific condition iii.**<br>This condition stands deleted as the water requirement for the expansion project is reduced due to change in scope of the project. |

## 29th December, 2021

50.1 Upgradation of Blast Furnaces (BFs) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); Fe-Si Plant of 5,000 TPA capacity by installation of 7.5 MVA Submerged Arc Furnace; Ductile Iron Plant of 3,00,000 TPA capacity; enhancement in oxygen plant capacity from 100 TPD to 250 TPD without enhancing the met coke production capacity of 3,22,000 TPA, Sinter plant capacity of 10,00,000 TPA, WHRB of 68 MW capacity and nitrogen plant of 50 TPD capacity by **M/s. Vedanta Limited** (Formerly M/s. Sesa Goa Ltd.) located at villages Amona and Navelim, Bicholim Taluka, **North Goa District, Goa** [Online Proposal No. IA/GA/IND/236713/2018, File No. IA-J-11011/946/2007-IA.II(I)] – **Environment Clearance – regarding.**

50.1.1 M/s. Vedanta Limited has made an online application vide proposal no. IA/GA/IND/236713/2018 dated 08/12/2021 along with copy of EIA/EMP report, certified compliance report and Form – 2 and sought for Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous), 1(d) Thermal Power Plants and 4(b) Coke Oven Plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

50.1.2 The details of the ToR are furnished as below:

| Date of application | Consideration | Details | Date of accord | Validity of ToR |
|---|---|---|---|---|
| 20/12/2018 | 3rd Meeting of the REAC (Industry 1) held during 9-11th January, 2019. | IA-J-11011/946/2007-IA.II (I) | 06/03/2019 | 05/03/2023 |

50.1.3 The project of M/s. Vedanta Limited (Formerly Sesa Goa Limited) located at Villages Amona and Navelim, Taluka Bicholim, District North Goa, Goa is for upgradation of Blast Furnaces (BFs) to enhance the production capacity (BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA; BF-3 from 5,40,000 TPA to 6,50,000 TPA); Fe-Si Plant of 5,000 TPA capacity by installation of 7.5 MVA Submerged Arc Furnace; Ductile Iron Plant of 3,00,000 TPA capacity; enhancement of WHRB capacity from 33 MW to 68 MW; enhancement in oxygen plant capacity from 100 TPD to 250 TPD without enhancing the met coke production capacity of 3,22,000 TPA, Sinter plant capacity of 10,00,000 TPA and nitrogen plant of 50 TPD capacity.

50.1.4 Environmental Site Settings:

| S No | Particulars | Details | Remarks |
|---|---|---|---|
| 1 | Total land | 161 ha<br>[Private:161 ha] | Land Use: Industrial land |
| 2 | Land acquisition details as per MoEF&CC | The existing units are installed in 161 ha. of land which is owned by M/s. Vedanata Limited. The expansion project is | |

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>O.M. dated 7/10/2014.</td><td>proposed in existing project area of 161 ha. No additional land is required for the proposed expansion</td><td></td></tr>
<tr><td>3</td><td>Existence of habitation & involvement of R&R, if any.</td><td><b>Project Site</b>: Nil<br><br><b>Study area:</b>
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Amona Village</td><td>0.32 km</td><td>WNW</td></tr>
<tr><td>Navelim Village</td><td>0.05</td><td>NE</td></tr>
</table></td><td>No R&R is involved.</td></tr>
<tr><td>4</td><td>Latitude and Longitude of all corners of the project site.</td><td>
<table>
<tr><th></th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>15$^{0}$31’44.35”N</td><td>73$^{0}$58’ 58.76”E</td></tr>
<tr><td>B</td><td>15$^{0}$31’21.14”N</td><td>73$^{0}$59’ 7.70”E</td></tr>
<tr><td>C</td><td>15$^{0}$30’25.08”N</td><td>74$^{0}$ 0’ 26.74”E</td></tr>
<tr><td>D</td><td>15$^{0}$31’5.72” N</td><td>74$^{0}$ 0’27.21”E</td></tr>
<tr><td>E</td><td>15$^{0}$31’ 37.16”N</td><td>73$^{0}$59’ 55.24” E</td></tr>
</table></td><td></td></tr>
<tr><td>5</td><td>Elevation of the project site</td><td>10- 55 m above mean sea level</td><td></td></tr>
<tr><td>6</td><td>Involvement of Forest land, if any</td><td>No involvement of Forest land.</td><td></td></tr>
<tr><td>7</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td><b>Project Site</b>: No water bodies within the project site.<br><br><b>Study area</b>
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Mandovi river</td><td>Adjacent to project boundary</td><td>SSW</td></tr>
<tr><td>Kudne river</td><td>1.0</td><td>North</td></tr>
<tr><td>Valvot river</td><td>3.5</td><td>North</td></tr>
<tr><td>KumbharjuaNadi</td><td>4.2</td><td>WSW</td></tr>
<tr><td>Karmali lake</td><td>6.0</td><td>SW</td></tr>
<tr><td>Arabian sea</td><td>15.0</td><td>WSW</td></tr>
</table>
Wetlands
<ul>
<li>Wet land nearby Amona (0.3 km, N)</li>
<li>Wet land nearby Navelim (0.6 km, N)</li>
<li>Wet land nearby Candola (1.45 km, W)</li>
<li>Wet land nearby Candola (1.6 km, W)</li>
<li>Wetland nearby Karapur (2.4 km, N)</li>
<li>Wetland nearby Karapur (3.8 km, N)</li>
<li>Wet land near Carambolim (7.0 km, SW)</li>
<li>Chorao Island (12.4 km, W)</li>
</ul></td><td>HFL data of Mandovi River is 7.66 m above mean sea level.<br><br>The elevations in the project site range from 15.0 to 50.0 m above mean sea level (amsl). Hence, any inundation or flooding due to peak flow events in Mandovi river is not envisaged.</td></tr>
<tr><td>8</td><td>Existence of</td><td>Ecologically Sensitive Zone (ESZ) for all</td><td>ESZ Notification</td></tr>
</table>

<table>
<tr><th>S No</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td>ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area.</td><td>the Wildlife Sanctuaries (WLS) in Goa are notified and maximum distance is of1 km from the boundary of WLS. Project site is reported to be located outside the notified ESZ boundary.<br>The WLS in study area are listed below:<br>• Mhadei WLS (9.8 km, NE)<br>• Bondla WLS (10.5 km, SE)<br>• Dr. Salim Ali Bird Sanctuary (12.4 km, W)<br>Following Reserve forests are located within study area:<br>Reserve forest: (5.9 km, ESE)<br>Reserve forest: (6.6 km, E)<br>Reserve forest: (9.5 km, NE)</td><td>was issued on 25/02/2015. Permission from Standing Committee for National Board of Wildlife (SCNBWL) is not applicable as the project site is located outside the notified ESZ boundary.</td></tr>
<tr><td>9</td><td>Archaeological sites/ historical monuments within the study area.</td><td>
<table>
<tr><th>Site name</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Namuzgah/ Idgah Mosque</td><td>7.1 km</td><td>NW</td></tr>
<tr><td>Fort at Sanquelim</td><td>4.4 km</td><td>N</td></tr>
<tr><td>Temple of Saptakoteshwar</td><td>5.9 km</td><td>WNW</td></tr>
<tr><td>Site of Gujir</td><td>2.2 km</td><td>N</td></tr>
<tr><td>Site of Fortress at St. Estevam</td><td>3.2 km</td><td>WNW</td></tr>
<tr><td>Fort at Naroa</td><td>6.0 km</td><td>W</td></tr>
<tr><td>Church of St. Peter</td><td>7.9 km</td><td>W</td></tr>
<tr><td>Chapel of our Lady of the Monte</td><td>6.9 km</td><td>W</td></tr>
<tr><td>Old Goa Church</td><td>8.0 km</td><td>W</td></tr>
<tr><td>Chapel of St. Xavier</td><td>7.5 km</td><td>W</td></tr>
<tr><td>Ruins of Collage of St. Populo</td><td>8.8 km</td><td>W</td></tr>
<tr><td>Convent of St. Monika & Chapel</td><td>8.6 km</td><td>W</td></tr>
<tr><td>Pandavas Caves at Naroa</td><td>5.8 km</td><td>WNW</td></tr>
<tr><td>The Mosque & Tank at Tar Surla</td><td>1.5 km</td><td>SE</td></tr>
<tr><td>Caves at Mangueshi</td><td>8.2 km</td><td>SW</td></tr>
<tr><td>Site of Ruins of Manguesh temple</td><td>8.3 km</td><td>SW</td></tr>
<tr><td>Ruins of Brahmapuri</td><td>7.0 km</td><td>W</td></tr>
<tr><td>Caves of Siddhanath at tar surla</td><td>1.9 km</td><td>SE</td></tr>
<tr><td>Haravalem Caves</td><td>3.8 km</td><td>NNE</td></tr>
</table>
</td><td>NOC from Archaeological Survey of India is under process.</td></tr>
</table>

50.1.5 The existing project was accorded environment clearance on 03/06/2009 for Mini Blast Furnace (0.90 MTPA), Sinter Plant (2 MTPA), Coke Plant (0.6 MTPA) and Waste Heat Recovery Power Plant (60 MW) in the name of M/s. Sesa Goa Limited. Subsequently, the EC got transferred in the name of M/s. Vedanta Limited on 5/9/2016. Thereafter, EC amendment in pursuance to the Order of Hon'ble National Green Tribunal in Appeal 47 of 2013 was accorded on 07/01/2020. BF-1 & 2 and its ancillary units are commissioned prior to EIA Notification 1994. Necessary consents are taken from Goa State Pollution Control Board (GSPCB) from time to time. Consents to Operate (CTO) for the existing unit are as follow:

| S No | CTO Details | Issuing Authority | Letter No | Validity |
|---|---|---|---|---|
| 1 | Partially modified in Renewal of CTO and authorization for Pig Iron Plant (2,92,000 TPA) and Installation of Pulverized Coal Injector Plant (01 No's) Plant at Amona village, Bicholim, Goa. | GSPCB | 5/5208/15-PCB/CI-5464/FLM/17465/CI-5585 dated: 17/05/2019 | 01/10/2023 |
| 2 | Renewal of CTO&A -Sinter (1 MTPA) & Mini blast furnace (0.54 MTPA) at Navelim village, Bicholimtaluka, Goa | GSPCB | 12/2020-PCB/557275/R0004287 dated: 24/08/2020 | 14/02/2025 |
| 3 | Renewal of CTO and authorization - Manufacture of Metallurgical coke (3,22,000 TPA), operation of loading and unloading grabs, operation of stamp charging plant, operation of coke drying and grinding plant, Power generation by WHRB (33 MW) | GSPCB | No.5/416/95-PCB/CI-5196 dated 27/12/2018 | 31/12/2023 |
| 4 | Renewal of CTO and authorization- Generation of power 35 MW and Metallurgical Coke 3,00,000 Tons/Annum | GSPCB | No.12/2020-PCB/531074/R0004147 dated 06/07/2020 | 31/12/2024 |

50.1.6 Implementation status of the existing EC/ CTO:

| S No | Facilities | Units | As per NOC granted | Implementation Status as on 10/11/2021 | Production as per CTO |
|---|---|---|---|---|---|
| 1 | Blast Furnace 1 & 2 | TPA | 2,92,000 (Commissioned before 1994 and operating on CTO obtained from GSPCB) | 2,92,000 | 2,92,000 |
| 2 | Blast Furnace 3 | TPA | 9,00,000 TPA (As per EC dated 03/06/2009 and EC amendment dated | 5,40,000 | 5,40,000 |

| S No | Facilities | Units | As per NOC granted | Implementation Status as on 10/11/2021 | Production as per CTO |
|---|---|---|---|---|---|
| | | | 05/09/2016) | | |
| 3 | Coke Oven Battery 1 | TPA | 3,22,000 (Commissioned before EIA notification 2006 operating on CTO obtained from GSPCB) | 3,22,000 | 3,22,000 |
| 4 | Coke Oven Battery 2 | TPA | 6,00,000 (As per EC dated 03/06/2009) | 3,00,000 | 3,00,000 |
| 5 | Sinter plant | TPA | 20,00,000 (As per EC dated 03/06/2009) | 10,00,000 | 1000000 |
| 6 | Waste heat recovery power plant | MW | 33 (Operating on CTO obtained from GSPCB) | 33 | 33 |
| 7 | Waste heat recovery power plant (WHRB) | MW | 60 (As per EC dated 03/06/2009) | 35 | 35 |
| 8 | Oxygen Plant & Nitrogen Plan | TPD | 100 &<br>50<br>(Installed and operating based on consents obtained from GSPCB) | 100<br>50 | 100<br>50 |

50.1.7 The unit configuration and capacity of existing and proposed project is given as below:

| S No | Name | Existing Units | | Proposed Units /Change | | Total (Existing +Proposed) | |
|---|---|---|---|---|---|---|---|
| | | **Configuration** | **Production Capacity** | **Configuration** | **Production Capacity** | **Configuration** | **Production Capacity** |
| 1 | Blast furnaces1 & 2 | 173 m$^3$ x 2 Nos | 2,92,000 TPA | No Change | 58,000 TPA (Increase by process improvement) | 173 m$^3$ x 2 Nos | 3,50,000 TPA |
| 2 | Blast furnace-3 | 450 m$^3$ x 1 No | 5,40,000 TPA | No Change | 1,10,000 TPA (with technology up gradation & process improvement) | 450 m$^3$ x 1 No | 6,50,000 TPA |
| 3 | Met coke production | Battery 1: 84 Ovens(non-recovery)<br>Battery 2: 72 Ovens (Non-recovery) | Battery 1: 3,22,000 TPA (prior to EC Notification so CTO capacity mentioned)<br>Battery 2: 3,00,000 TPA (Phase 1 of EC | Battery 1: Additional 4 Ovens (non-recovery type)<br>Battery 2: No Change | 0 (4 ovens will be added to achieve the existing production)<br>0 | Battery 1: 88 Ovens (non-recovery type)<br>Battery 2: 72 Ovens (Non-recovery type) | 6,22,000 TPA |

| **S No** | **Name** | **Existing Units** | | **Proposed Units /Change** | | **Total (Existing +Proposed)** | |
|---|---|---|---|---|---|---|---|
| | | **Configuration** | **Production Capacity** | **Configuration** | **Production Capacity** | **Configuration** | **Production Capacity** |
| | | | capacity 6,00,000 TPA) | | | | |
| 4 | Fe-Si plant | Nil | Nil | 7.5 MVA | 5,000 TPA | 7.5 MVA | 5,000 TPA |
| 5 | Proposed ductile iron pipe plant | Nil | Nil | Nil | 3,00,000 TPA | Nil | 3,00,000 TPA |
| 6 | Waste heat recovery power plant | 1 x 33 MW & 1 x 35 MW | 595 Million Units | Nil | Nil | 1 x 33 MW & 1 x 35 MW | 595 Million Units |
| 7 | Sinter plant | 1 x 75 $m^2$ | 10,00,000 TPA | Nil | Nil | 1X75 $m^2$ | 10,00,000 TPA |
| 8 | Oxygen & nitrogen plant | 1x100 TPD Oxygen & 1x50 TPD Nitrogen (Cryogenic plant) | 1x100 TPD Oxygen & 1x50 TPD Nitrogen | 1x150 TPD Oxygen | 1x150 TPD Oxygen | 1x150 TPD + 1x100 TPD Oxygen & 1x50 TPD Nitrogen | 250 TPD Oxygen & 50 TPD Nitrogen |

50.1.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

**RAW MATERIALS SOURCE -PIG IRON, COKE & SINTER**

| **S No** | **Materials** | **Existing (Tons)** | **Additional Proposed (Tons)** | **Final (Tons)** | **Source** | **Mode of Transportation** | **Distance** |
|---|---|---|---|---|---|---|---|
| 1 | Iron ore fines for sinter | 10,01,777 | 1,79,652 | 11,81,429 | From mines located in Goa and adjoining states | Road ways/ Railways/ Waterways | 500 km |
| 2 | Iron ore lumps/ pellets | 5,92,216 | 1,43,580 | 7,35,796 | From mines located in Goa and adjoining states | Road ways/ Railways/ Waterways | 500 km |
| 3 | Coke | 5,05,548 | 69,720 | 5,75,268 | Inhouse and purchased | Roadways | 2-30 km |
| 4 | PCI | 86,260 | 39,240 | 1,25,500 | Imported | By waterways | Imports |
| 5 | Limestone | 15,8060 | 29,342 | 1,87,402 | Domestic (Karnataka) as well as imported | Road ways/Railways/ Waterways | 500 km and Imports |
| 6 | Dolomite | 1,39,363 | 25,989 | 1,65,352 | Domestic (Karnataka) As well as imported | Road ways/ Railways/ Waterways | 500 km and Imports |
| 7 | Quartzite | 42,898 | 8,633 | 51,531 | Domestic (Maharashtra and Karnataka) | Roadways/ Railways | 500km |
| 8 | Quick Lime | 46,743 | 8,383 | 55,126 | Karnataka & Rajasthan | Roadways | 500-1800 km |
| 9 | Coke breeze | 69,051 | 12,383 | 81,434 | Inhouse | Roadways | 2-30 km |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 10 | Coal for coke production | 8,30,000 | - | 8,30,000 | Import | Waterways | Import |

## RAW MATERIALS SOURCE -DI PIPE & FE & SI

| S No | Material | Proposed (kg/ton) | Final (TPA) | Mode of Transport | Source | Distance |
|---|---|---|---|---|---|---|
| **Proposed Raw Material for DI Pipe** | | | | | | |
| 1 | Hot metal | 1,083.0 | 32,4900 | By road/ rail track | Existing Blast furnace | 1 km |
| 2 | MS scrap | 100-130 | 36,000 | Byroad | Inhouse & Steel Mills | 500 km |
| 3 | Ferrosilicon | 10 | 3,000 | Byroad | In house and Maharashtra | 500 km |
| 4 | Zn wire | 1.73 | 519 | Byroad | HZL and other Sources in India | 1600 km |
| 5 | Bitumen coal tar | 2.15 | 645 | Byroad | IOCL and other Indian sources | 500 km |
| 6 | Magnesium | 1.3-1.4 | 405 | Byroad | From India | 1500 km |
| 7 | Sand for core making | 55 | 16,500 | Byroad | From India | 1500 km |
| 8 | Graphite powder | 0.67 | 201 | Byroad | Graphite India limited & other Sources in India | 1000 km |
| 9 | Binder | 1.3-1.4 | 405 | Byroad | Domestic and imported | Import |
| 10 | Catalyst | 0.27 | 81 | Byroad | From India/Imported | Import |
| 11 | Cement | 30 | 9,000 | Byroad | Domestic, ACC, Birla | 100-1000 km |
| 12 | Calcium carbide | 14-15 | 4,500 | Byroad | Jalandhar/Import | 2000km |
| 13 | Sand for lining | 130-165 | 45,000 | Byroad | Domestic and Other sources in India | 500km |
| | **Proposed Raw Material for Fe-Si** | | | | | |
| 1 | Quartzite | 1.782 | 8,910 | Roadways/Railways | Domestic (Maharashtra and Karnataka) | 500Km |
| 2 | Charcoal | 0.6435 | 3,217.5 | Roadways/Railways | Orissa/ Jharkhand | 1600km |
| 3 | Coke | 0.6435 | 3,217.5 | Roads | Inhouse & Domestic | 1-30Km |
| 4 | Iron scrap, mill scale | 0.198 | 990 | Roads | Inhouse &Steel Mills | 500 km |
| 5 | Electrode paste | 0.0693 | 346.5 | Roads | From India | 500 km |

50.1.9 The existing water requirement is 10,344 KLD. Additional water requirement for the proposed expansion project will be 2,400 KLD. Accordingly, the total water requirement will be 12,744 KLD (Existing + proposed).

Renewal of NOC for withdrawal from Valvonti River for 10,000 cum /day is obtained from Water Resource Department vide Letter No: WRD/WDI/ASW/F.15/2021-22/157 dated 05/08/2021 and is valid up to 19/04/2022. NOC for water drawl from Mandovi river of 9,600 cu.m/day is obtained from Water Resource Department vide Letter No: 15/WRD/WDI/ADM/13-14/58 dated 24/04/2014. The details of water requirement and sources are mentioned below.

| **Source** | **Existing** | | **Expansion (Additional Requirement)** | | **Allocated/ Permitted Quantity (KLD)** |
|---|---|---|---|---|---|
| | **Quantity (KLD)** | **Remarks** | **Quantity (KLD)** | **Remarks** | |
| Saline water from Mandovi river | 4320 | | - | | 9600 |
| Bandhara at Valvonti river and rain water harvested | 5664 | 3384 KLD drawn from Bandhara and 2280 KLD sourced from Rainwater harvesting | 2400 | Mostly sourced from rain water harvesting pits. However, Bandhara water will be drawn as and when required basis for which permission already exists. | 10000 |
| PWD water for domestic consumption | 360 | | - | | |
| Total | **10344** | | **2400** | | |
| Grand total | **12744 KLD** | | | | **19,600** |

50.1.10 Existing power requirement is 27 MW and the additional power requirement for the proposed expansion project is 28.5 MW. The total power requirement after proposed expansion is 55.5 MW. This requirement will be sourced from 68 MW captive power plant and external grid (as emergency backup).

50.1.11 Baseline Environmental Studies:

| **Period** | **01/03/2019 to 31/05/2019** | **Additional Study 10/12/2020 to 10/03/2021** |
|---|---|---|
| AAQ parameters at 8 locations (min and max) | $PM_{10}$ = 44.3-86.3µg/m$^3$<br>$PM_{2.5}$ = 25.9-42.9µg/m$^3$<br>$SO_2$ = 10.1-19.7 µg/m$^3$<br>NOx = 11.8-21.9 µg/m$^3$<br>CO =194-356 µg/m$^3$ | $PM_{10}$= 43.4-79.0 µg/m$^3$,<br>$PM_{2.5}$ = 20.7-39.8 µg/ m$^3$<br>$SO_2$= 9.2-16.9 µg/ m$^3$,<br>NOx =10.5-19.4 µg/ m$^3$,<br>CO =200-343 µg/ m$^3$ |
| Incremental GLC Level | **Scenario-I: Proposed expansion**<br>$PM_{10}$ = 5.60 µg/m$^3$<br>$PM_{2.5}$ = 1.84 µg/m$^3$<br>$SO_2$ = 1.38 µg/m$^3$<br>$NO_x$ = 1.04 µg/m$^3$<br><br>**Scenario-II: Proposed expansion and existing units**<br>$PM_{10}$ = 22.0 µg/m$^3$<br>$PM_{2.5}$ = 6.62 µg/m$^3$<br>$SO_2$ = 11.0 µg/m$^3$<br>NOx = 7.90 µg/m$^3$<br><br>**Scenario-III:** | **Scenario-I: Proposed expansion**<br>$PM_{10}$= 6.36 µg/ m$^3$,<br>$PM_{2.5}$ = 1.90 µg/ m$^3$<br>$SO_2$ = 4.51 µg/ m$^3$,<br>$NO_x$ = 3.41 µg/ m$^3$<br>**Scenario-II: Proposed expansion and existing units**<br>$PM_{10}$ = 20.2 µg/ m$^3$,<br>$PM_{2.5}$ = 6.06 µg/ m$^3$<br>$SO_2$ = 9.60 µg/ m$^3$,<br>$NO_x$ = 6.35 µg/ m$^3$<br><br>**Scenario-III:** |

<table>
<tr><td></td><td>Other Industries within 10 km of Study Area + Scenario-II<br>PM$_{10}$ = 79.2 µg/m$^3$<br>PM$_{2.5}$ = 37.9 µg/m$^3$<br>SO$_2$ = 18.7 µg/m$^3$<br>NOx = 20.9 µg/m$^3$</td><td>Other Industries within 10 km of Study Area + Scenario-II<br>PM$_{10}$ = 74.2 µg/ m$^3$,<br>PM$_{2.5}$ = 30.6 µg/ m$^3$<br>SO$_2$ = 15.8 µg/ m$^3$,<br>NO$_x$ = 19.1 µg/ m$^3$</td></tr>
<tr><td>Groundwater quality at 8 locations</td><td>pH: 6.95-7.29<br>Total Hardness: 262-1621.6mg/l,<br>Chlorides: 225-1192mg/l,<br>Fluoride: 0.3-1.1 mg/l.<br>Heavy metals are within the limits</td><td>pH: 6.74-7.64,<br>Total Hardness: 115.8 - 225.7 mg/l,<br>Chlorides: 45.2-152.4 mg/l,<br>Fluoride: 0.5-0.8 mg/l and Heavy metals are within the limits</td></tr>
<tr><td>Surface water quality at 2 locations</td><td>pH: 6.81-7.35;<br>DO: 5.4-6.1mg/l and<br>BOD: <3.0mg/l.<br>COD: <5-70mg/l</td><td>pH:6.64-7.85,<br>DO: 5.8-6.6 mg/l,<br>BOD: < 3.0 mg/l and<br>COD: 6.3 – 12.8 mg/l</td></tr>
<tr><td>Noiselevels Leq (Day and Night), at 8 locations</td><td>43.1 to 51.1 dB (A) for the day time and 40.0 dB (A) to 47.5 dB (A) for the night time.</td><td>43.1 to 51.1 dB(A) for the day time and 40.0 dB (A) to 47.5 dB (A) for the night time</td></tr>
<tr><td>Traffic assessment study findings</td><td colspan="2">Traffic study has been conducted at Amona to Sanquelim Road.<br><br>Existing PCU is 77.45 PCU/hr on Amona to Sanquelim Road and existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>Amona to Sanquelim Road</td><td>77.45</td><td>625</td><td>0.12</td><td>A (Excellent)</td></tr>
</table>
PCU load after proposed project will be 115.2 PCU/hr (37.75 + 77.45) and level of service (LOS) will be:
<table>
<tr><th>Road</th><th>V (Volume in PCU/hr)</th><th>C (Capacity in PCU/hr)</th><th>Proposed V/C Ratio</th><th>LOS</th></tr>
<tr><td>Amona to Sanquelim Road</td><td>115.2</td><td>625</td><td>0.18</td><td>A (Excellent)</td></tr>
</table>
Conclusion: The level of service will remain same ‘A’ after including additional traffic due to proposed project.<br><br>Additional truck traffic due to existing & proposed project: 302 Trucks per day<br>Incremental Concentrations:<br>PM$_{10}$ = 1.36 µg/m$^3$<br>PM$_{2.5}$ = 0.82 µg/m$^3$</td></tr>
</table>

| | |
|---|---|
| | NOx = 8.26 $\mu g/m^3$<br>CO =2.27 $\mu g/m^3$<br>HC=3.55 $\mu g/m^3$ |
| Flora and fauna | There are 7 Schedule-I species found in the study area which are Peacock, Crocodile, Shikra, Common Indian Monitor Lizard, Gaur, Indian Python and Leopard.<br>Authentication of flora and fauna is approved by Deputy Conservator of Forests, North Goa vide Letter No. 5/FCA/GEN/F& F/DCFN/TECH/21-22/101/253 dated 04/05/2021.<br>Approval of Wild Life Conservation plan is obtained by Deputy Conservator of Forests Wild Life & Eco-Tourism (North) Division, Government of Goa vide Letter No: 1-576 (PART) WL & ET (N)/2021-2022/554 dated 28/05/2021.<br>Office of the Dy. Conservator of Forests has authenticated the distance of Wild Life Sanctuaries from boundary of Vedanta Plant vide Letter No: DCF(WP)/Tech/Digi/Vol-I/75/2020-21/192 dated 04/06/2021. |

50.1.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

**Major Solid Waste Generation Details**

| Sr. No | Solid Waste Quantity | Existing TPA | Proposed TPA (Tentative) | Final after Expansion TPA | Mode of Disposal |
|---|---|---|---|---|---|
| **Non-Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)** | | | | | |
| 1 | Slag | 3,41,400 | 85240 | 426,640 | Sold to cement industry |
| 2 | Flue dust | 20,000 | 10,000 | 30,000 | Recycled through sinter plant |
| 3 | Coke fines from DES | 1000 | Nil | 1000 | Charging in Blast Furnace |
| 4 | Coke Breeze | 53,000 | Nil | 53,000 | Recycled through sinter plant |
| **Hazardous Waste (BF, Sinter, Coke Oven & WHRBP)** | | | | | |
| 1 | Oil-soaked cotton waste | 10 | 2 | 12 | Incinerated in coke oven plant |
| 2 | Discarded Containers / Barrels /Liners contaminated with Hazardous Wastes/ Chemicals | 25 | 10 | 35 | Being given to authorized recyclers for decontamination and recycling |
| 3 | Spent ion exchange resin | 0.4 | 0 | 0.4 | To authorized incineration facility/ cement plant for co processing |
| 4 | Used oil | 30 | 20 | 50 | Authorized recyclers |
| 5 | Oil filters | 4 | 3 | 7 | Authorized recyclers |
| **Proposed Fe- Si Plant (Non-Hazardous Waste)** | | | | | |
| 1 | Slag | - | 590 | 590 | Partly reused in sinter plant and partly in road |

| **Sr. No** | **Solid Waste Quantity** | **Existing TPA** | **Proposed TPA (Tentative)** | **Final after Expansion TPA** | **Mode of Disposal** |
|---|---|---|---|---|---|
| | | | | | making |
| 2 | Fe dust collected from bag filter | - | 1250 | 1250 | Reused into the sinter plant |
| **Proposed DI Pipe Plant** | | | | | |
| **Non-Hazardous Waste** | | | | | |
| 1 | Iron scrap | - | 25,000 | 25,000 | Sold to foundry units for re-melting and re-use |
| 2 | Slag | - | 3000 | 3000 | Used internally for road laying |
| 3 | Waste core sand | - | 10,000 | 10,000 | Construction fill/road bases/ land fill/ reused in cast house of BF |
| 4 | Magnesium oxide waste | - | 20 | 20 | Re-used in the sinter plant |
| 5 | Cement slurry | - | 10500 | 10500 | Internally used for road laying |
| **Hazardous Waste in Proposed DI Pipe Plant** | | | | | |
| 1 | Zinc dust | - | 525 | 525 | To authorized recyclers |
| 2 | Used oil | - | 10 | 10 | To authorized recyclers |
| 3 | Oil sludge | | 6 | 6 | To authorized recyclers |
| 4 | Resin hardener | | 4.8 | 4.8 | To authorized recyclers |
| 5 | Paint tins (Bitumen paint tins & normal paint tins) | | 1.2 | 1.2 | To authorized recyclers |

**Other Wastes:**

| **Sr. No** | **Solid Waste Quantity** | **Existing** | **Proposed (Tentative)** | **Final after Expansion** | **Mode of Disposal** |
|---|---|---|---|---|---|
| 1 | STP Sludge | 150 kg | 50 kg | 200 kg | Used in greenbelt area |
| 2 | E-Waste | 8 MT | 2 MT | 10 MT | Sent to authorized recyclers |
| 3 | Batteries | 6 MT | 2 MT | 8 MT | Sent to authorized vendors |
| 4 | Refractory Bricks | 500 MT | 200 MT | 700 MT | Used as road material or filling |
| 5 | Metal Scrap | 700 MT | 300 MT | 1000 MT | Disposed to dealer as per scrap metal policy |

50.1.13 Public Consultation:

| | |
|---|---|
| **Details of Advertisement given** | 11/02/2021 |
| **Date of Public Consultation** | 14/03/2021 (Navelim Village) &<br>21/03/2021 (Amona Village) |
| **Venue** | 1. Government Village Playground Navelim, Near Vividha Higher Secondary School, Navelim, Sanquelim, Goa<br>2. Amona Village, Government High School Ground, Amona Ground, Goa |
| **Presiding Officer** | Additional Collector |
| **Major Issues Raised** | Air Pollution,<br>Water Pollution,<br>Health Screening and Assessment, |

| | |
|---|---|
| | Employment & Skill Development to Local People |

## Action Plan as per MoEF&CC O. M. dated 30/09/2020:

| **Activity** | **Plan Fy22** | **Plan FY23** | **Plan FY24** | **Cost (Lacs)** |
|---|---|---|---|---|
| Infra Development at Educational Institutes | Development of Anagawadi at Durigwada with Change in roof, Building As Learning Aid painting, Smart TV set, modern play equipments and sanitation facility and solar panels under Project Nandghar | Providing Chemistry Laboratory equipments such as microscopes, industrial oven, Refrigerator, Counter tables to Government college Khandola | Construction of Physics laboratory room at Khandola college | 178 |
| | | Upgradation of Anagawadi at Betalwada, Maina, Fanaswadi, Bharoniwada with -Change in roof, Building As Learning Aid painting, Smart TV set, modern play equipments and sanitation facility and solar panels under Project Nandghar: | Development of Garden and play equipment at maina primary school | |
| | | Solar power station at GHS Navelim | Solar power station at Vividha Higher secondary | |
| | | -False ceiling support to Bhagat wada primary school,<br>-Shed for cultural events at Fanaswadi Primary school<br>-Compound wall for Bandharwada Primary school | Distribution of 50 benches each in 3 primary schools of amona, 3 primary schools of Navelim, 2 primary school of Virdi and 2 primary schools of betki candola - Total 500 benches | |
| | | Construction of new canteen block at Vividha Higher secondary School | Roof work GPS Fanaswadi<br>Sports kit to GHS Amona and GHS Navelim | |
| Adoption of Government high school Amona | Construction of innovation lab with two rooms at GHS Amona | Solar Power station for GHS amona school | Providing edutech smart boards for 10 classrooms | 110 |
| | | Auditorium facility at school | Paver blocks and landscaping at Assembly area | |
| | | Construction of Toilet block | Providing 200 benches to GHS | |

| **Activity** | **Plan Fy22** | **Plan FY23** | **Plan FY24** | **Cost (Lacs)** |
|---|---|---|---|---|
| | | | Amona | |
| Broadband Connectivity in village (Amona and Navelim) | Developing wifi infrastructure in amona and Naveli village supporting 100 students | | | 7 |
| Back to farming: Getting barren land under cultivation | Providing power tiller, tractor, rotary cultivator to Farmer groups of 8 Ha of uncultivated land at Dacul maina fields and 25 Ha land at Naveli Fields | Fencing outer perimeter of length 1.5 KMs at Naveli Fields | Making new 1.5 km Access roads to fields | 22 |
| | | refurbishment of traditional irrigation system (bund repair, channels desilting) at Dacul maina and Naveli Fields | Alternate irrigation system and electrification through sinking of wells and pipelines at naveli and maina | |
| Creation of livelihood through livestock Purchase of cattle and dairy equipment | 10 Cows to be provided by March 22 for identified farmers from amona and Navelim | 20 Cows to be provided March 23 for identified farmers from amona and Navelim | 20 Cows to be provided March 24, for identified farmers from amona and Navelim | 41 |
| Livelihood generation through poultry | - | First Pilot project at Naveli, (100% support including training, poultry shed, feed etc) | Second pilot project at Amona (100% support including training, poultry shed, feed etc) | 12 |
| Creation of Livelihood through fisheries | Cage fishing one pilot project at Navelim (4 cages) | Upscaling of pilot project at Navelim (adding 4 cages) | Handholding for Navelim Project | 25 |
| | | One pilot project at Navelim | Upscaling of amona project | |
| Integrated farming for individual farmers through Horticulture | Identifying and supporting 15 farmers (1 acre land per famer) Providing fencing, irrigation facility, saplings, fertilizers | Indentifying and supporting farmers 15 new by Providing fencing, irrigation facility, saplings, fertilizers | Identifying and supporting 15 new farmers by providing fencing, irrigation facility, saplings, fertilizers | 53 |
| Roads and pedestrian safety | LED Streetlight: 1.5 Km Road from Betal temple to Maina (70 poles and 70 fixtures) | LED Streetlight: 1 KM from maina junction till Ghodbaay Junction (30 poles and other fixtures) | LED Streetlight: 0.5 KM from Ghodbaay Junction till Naveli Junction (15 poles and other fixtures) | 122 |
| | Traffic Signal: Maina Junction, | Traffic Signal: Ghodbaay Junction, | Pedestrian Pathway: 0.5 Km from Betal temple to Vedanta Gate | |
| | Bus stop: Timsawada Amona. | Padesterian Pathway: 0.5 Km Betal Temple to | Bus stop: Maina Ferry point and Fansaswadi | |

| **Activity** | **Plan Fy22** | **Plan FY23** | **Plan FY24** | **Cost (Lacs)** |
|---|---|---|---|---|
| | | Maina Junction | | |
| | | Bus stop: Amona Junction | | |
| Health screening and Assessment | | Providing one Mobile health unit for surrounding villages (Amona, Naveli, Betki Canodla, Virdi, Kudne) | | 25 |
| Improvement in infrastructure of crematoriums | Shed and pyre constructon at Amona | Shed for crematorium at Navelim, | Shed for crematorium at Fanaswadi | 23.5 |
| | | Compound wall for crematorium at Amona | | |
| Sports Infrastructure Development | Illumination of football ground at amona ( 12 poles and 36 flood lights) | Making of volleyball /badminton court at Navelim | Laying of astro turf (football) at Amona panchayat ground. | 28 |
| Maina Lake redevelopment | Construction of concrete retaining wall at maina storm water drain of 40 meters | Proper channelization of storm water to the river and increasing Maina lake capacity (sluice gate, channel desilting) | Beautification of the maina lake area, (development of garden, walk way, illumination, benches) | 80 |
| Improving drinking water Availability at Maina-Navelim | Initiation of the project by making project plan is association with PWD, preparatory work and obtaining relevant approvals and clearances | Enabling 50 % households with continuous drinking water supply as per PWD approved plan | Enabling remaining 50% with continuous drinking water supply | 38 |
| Garbage collection and segregation | Construction of Material Recovery Facility with a shed to VP Amona | Construction of Material Recovery shed at VP Navelim | | 25 |
| Capacity building for women entrepreneurs | Identification of interested women, capacity building through orientation workshops and trainings. | Supporting the 5 startups FY 22 and forming 10 new women entrepreneurs' startups | Handholding, increasing production, increasing market scope, additional machinery and capital requirement. | 40 |
| | | One outlet/store for 5 groups | Opening one outlet/store for other 10 households | |
| Total | | | | 880 |

50.1.14 The capital cost of the proposed expansion project is about Rs. 701 Crores. Vedanta Limited proposes to spend about Rs. 90.68 crores towards environmental protection measures with a recurring cost of about Rs. 4.0 crores. The proposed expansion project will generate employment for 450 manpower. The details of cost for environmental protection measures is as follows:

| **SNo** | **Area** | **Capex in Rs. Crores** | **Revenue in Rs. Crores** |
|---|---|---|---|
| 1 | Replacement of Dust Extraction system Bag house at BF-1 in hot metal handling area with higher efficiency | 15.00 | 2.00 |
| 2 | Upgradation of Dust Extraction system Bag house at BF-3 in hot metal handling area | 5.00 | |
| 3 | Upgradation of gas cleaning system at BF -1 & 2 | 5.50 | |
| 4 | Bag house for Fe - Si Plant | 4.85 | |
| 5 | Bag houses for DI pipe plant | 25.17 | |
| 6 | Wind shield at the boundary | 2.75 | - |
| 7 | Monitoring equipment (nos of CEMS for 15stacks of DI plant & 1 stack of Fe-Si plant, noise monitor) | 5.00 | 0.20 |
| 8 | Dust suppression through tankers, rain guns and fog cannon | 1.00 | 0.80 |
| 9 | Storm water management and rain water harvesting | 0.30 | 1.00 |
| 10 | Green belt development | 1.00 | |
| 11 | Storage shed for iron ore | 4.00 | - |
| 12 | Coke Oven Battery 1 suction hood with ID fan for dust control | 1.00 | - |
| 13 | Storage shed for slag | 1.00 | - |
| 14 | Upgradation of turbine to reduce the GHG emission | 17.26 | - |
| 15 | Road sweeping machine | 1.50 | - |
| 16 | Proposed STP | 0.35 | - |
| | **Total** | **90.68** | **4.00** |
| 17 | Address to Public hearing concerns | **8.80** | |

50.1.15 Existing Greenbelt has been developed and maintained in 54 ha i.e 33.5% of area within the plant premises. Around 3,00,000 nos of saplings have so far been planted within the plant area. In recent past, 29,614 nos of saplings were planted as gap filling and maintained. During the current financial year, additional 7,500 saplings have been planted by adopting Miyawaki system.

50.1.16 Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration shall be furnished.

| S No | Case | Status |
|---|---|---|
| 1 | Name of the Court: High Court of Bombay at Goa<br>Case No: 10/2021 | **Case Details:** - Siddhesh Gawas and Mr Viraj Naik, the petitioners have filed a writ petition in the HC praying for issuance of writ of Mandamus against the project proponent and alleging that there have been actions undertaken by the project proponent in violation of the Environment Impact Assessment Notification, 2006. Post which Vedanta already filed its preliminary affidavit in response to the same. GSPCB also filed its Inspection Report.<br>**Order/ Direction of the Court**: The court has dismissed the petition on 3/08/2021. |
| 2 | Name of the Court: NGT Pune-Western Bench<br>Case No: 47/2013 | **Case Details**: -An application has been filed by Village Panchayat of Navelim alleging that the GSPCB has issued separate piece meal consent to operate to each of Vedanta's expansion project at Navelim, even though the Environment Clearance and Consent to Establish is for all four plants together, thereby violating the EC conditions. This matter has been kept in abeyance since the identical issue was pending before the SC in another petition which was referred by the SC to NGT Delhi. NGT Delhi disposed the same without any adverse order against Vedanta as far as EC is concerned. However, directed MoEF to add any additional EC Condition. **Subsequently, MoEF&CC heard both the parties and disposed the matter by imposing additional conditions over and above the existing conditions.**<br>**Orders/Directions of the court**: No order having any adverse impact on the project. Matter is pending for final disposal. |
| 3 | Name of the Court: District Court, Mapusa Case No. 24/2015 | **Case Details**: The Communidade of Amona has filed a case against the project proponent claiming that the lease granted to the project proponent in terms of provisional possession for survey no. 42/1 and 43/1 has already expired in the year 2012 and has thus reverted back to the plaintiff in the year 2012 and to issue perpetual injunction against the project proponents from entering the said property. Vedanta have filed its reply. It is now pending for arguments.<br>**Orders/Directions of the court**: No order having any adverse impact on the project. Pending for arguments. |
| 4 | Name of the Court: High Court, Goa<br>Case No. 881/2017 | **Case Details:** Pravir P Fadte has filed a writ petition in the HC of Goa stating that the Project Proponent is not in compliance with NEERI's recommendations. The allegations were incorrect in nature.<br>GSPCB has filed affidavit in High Court confirming Vedanta Compliance with NEERI's recommendations.<br>**Orders/Directions of the court**: There is no adverse order from HC. The case is pending hearing as per board. |

50.1.17 Name of the EIA consultant: M/s. Vimta Labs Limited [at S No. 147, List of ACOs with their Certificate/Ext letter no. QCI/NABET/ENV/ACO/21/2126, valid up to 08/02/2022 Rev. 17, December 13, 2021].

**Certified compliance report from Regional Office**

50.1.18 The Status of compliance of earlier EC was obtained from Integrated Regional Office, Bangalore *vide* letter no. EP/12.1/243/GOA/866, dated 25/10/2021 in the name of M/s. Vedanta Limited. In this regard, the inspection was undertaken by RO on 08/10/2021. The observations stated in the said report are summarized as below.

| S No | Points which are to be complied | Condition no | Remarks of IRO |
|---|---|---|---|
| 1 | All the transportation roads within the project premises shall be fully asphalted/ concreted in a phase manner to ensure the reduction of fugitive emission and to get a clear runoff during monsoon. | Additional cond. No 2 of Amended EC letter dated 07/01/2020 and point no 4 of show cause notice issued by Ministry dated 31/08/2021. | During site visit, it was noted that most of the internal roads are tarred and PA has given an undertaking stating that tarring of balance internal roads of around 6.38 km will be black topped or concreted by April 2022. On the day of visit it was noted that road sweeping machine was deployed to keep the road clean. Also, water was sprayed to prevent dust generation.<br>**Remark of RO: Agreed to Comply** |
| 2 | Storage of slag in open in the plant | point no 5 of show cause notice issued by Ministry dated 31/08/2021. | Regarding stacking of slag, PA informed that the same has been stored as a temporary arrangement due to difficulties in transportation during monsoon and the same is to be transported to cement industries immediately after the monsoon. Om the day of visit, it was noted that the slag stored outside is properly covered with silpauline and regular water sprinkling is also done in the area to avoid dust emission.<br>**Remark of RO: Agreed to comply** |
| 3 | Graphite particle dust in nearby areas. | point no 7 of show cause notice issued by Ministry dated 31/08/2021. | Regarding emission of shiny dust particles, it was noted that these are light weight graphite particle having size more than 10 microns. Graphite is normally released during tapping of hot metal and its subsequent handling. When the metal temperature drops, the saturated carbon (at high temperature) is released in the form of graphite, part of which become airborne. To capture these airborne particles and fumes, ladle tapping, pouring, |

| S No | Points which are to be complied | Condition no | Remarks of IRO |
|---|---|---|---|
| | | | dumping activity happens under fume extraction hoods. PA informed that this problem has been rectified after the installation of additional bag houses and several additional fugitive dust emission measures are being adopted to control the same and PA assured to comply to the same.<br>**Remarks of RO: Agreed to comply** |
| 4 | NOC not obtained from Archaeological Survey of India. | point no 9 of show cause notice issued by Ministry dated 31/08/2021. | During the visit, PA informed that this is not a new unit, and this plant is in operation since 1994 and till date no such NOC was sought by any regulatory Agency and the obtainment of the same would be subject to applicability as per norms.<br>**Remarks of RO: Agreed to comply subject to applicability.** |

50.1.19 M/s. Vedanta Limited has earlier made an online application vide proposal no. IA/GA/IND/215662/2018 dated 29/07/2021. The proposal was considered in 42nd meeting of reconstituted Expert Appraisal Committee (Industry-1) held on 12-13th August, 2021. The observation and recommendation of the EAC is given as below:

**Observations of the Committee held on 12-13th August, 2021**

50.1.20 The Committee observed the following:

i. In the instant proposal, the units namely Blast Furnace (2,92,000 $m^3$) and Coke Oven Plant (3,20,000 TPA) are running on the strength of the CTE/CTO from Goa State Pollution Control Board. Besides, PP has obtained EC during 2009 for Blast furnace – 9,00,000 TPA; Sinter Plant – 2,00,0000 TPA; Coke Oven Plant – 6,00,000 TPA and Power Plant 60 MW based on WHRB. However, project proponent has not integrated the said units till date. EIA report needs to be revised by integrating all the units and cumulative impact assessment needs to be carried out.

ii. The existing and proposed configuration of Blast Furnace, Sinter Plant, Coke Oven Plant, Ferro Alloy Plant and Power Plant are neither reflected in the EIA report nor in the presentation made before the EAC.

iii. The company has obtained one EC and being operated in piece meal consents from GSPCB in the name of Pig Iron Division, Sinter Plant Division, Met Coke Division and WHRB Division which is creating confusion while evaluating the implementation status of the EC.

iv. There is a jetty in the vicinity of the project site which is being used for material transportation. The dimensions of the jetty and the material handling capacity of the jetty for the existing and proposed expansion has not been made available. Clearances if any obtained, under the provisions of CRZ, 1991 and its subsequent amendments has also not been informed.

v. There are 18 sites of archeological importance in the study area. In this regard, no approval/clearance from the Archeological Survey of India has been obtained till date although the unit is under operation since 1992. Impact assessment on archaeological sites/ historical monuments due to the existing and proposed expansion of the plant has not been carried out.

vi. According to the certified compliance report of GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.

vii. As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

viii. Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

ix. As per the base line data collected, the BOD in the surface water sample is reported as less than 3 mg/lit whereas COD reported values are 50 mg/l, 60mg/l and 70 mg/lit respectively which seems incorrect and no clarification for the same provided. Location of the water quality sampling stations as well as positioning of air quality samplers at monitoring stations are not in conformity with the CPCB guidelines. Riverine ecology study has not been carried out at all. In view of this, fresh data (one month) needs to be collected. Besides, PP needs to clarify about the monitoring methodology for $O_3$, $NH_3$ and BaP etc., as the monitoring has not been carried out properly.

x. There are 7 schedule I species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

xi. Public Hearing was conducted on 14.3.2021 and 21.3.2021 based on the Order of Hon'ble High Court of Bombay. 817 people attended the PH and most of the attendees opposed the project expansion citing pollution, health, education and unemployment issues etc. PP failed to submit the point wise response to the issues raised in public hearing and action plan with physical target as per MoEF&CC O.M. dated 30/09/2020 has not been submitted.

xii. Incomplete/inaccurate and inconsistent information has been furnished in most of the sections of Form 2.

xiii. EMP cost is indicated as Rs. 35.0 Cr on a CAPEX of Rs.701.0 Cr. This is just 5 % of CAPEX which is grossly inadequate. For a BF- Coke Oven and DIP complex the EMP cost shall be around 15 % of CAPEX.

xiv. Total water requirement is 12794 KLD out of which only 9600 KLD is drawn from Mandovi River and balance is drawn from old abandoned pits of iron ore mines (Harvested rain water). Subsequently, PP has informed that permission for withdrawal of 10000 KLD of water from Balvot river has been obtained. There is no clarity on the source of water for the existing and proposed expansion.

xv. Load bearing capacity (Million Standard Axle) of the existing connecting road vis-à-vis with vehicles plying on the road has not been carried out.

xvi. Energy recovery systems like TRT, sinter cooler waste heat recovery, BF hot stove waste heat recovery, dry gas cleaning of BF gas have not been considered in the proposal.

xvii. List of Hazardous waste does not include bitumen coated sand, Zinc dross, cement slurry generated from DIP plant.

xviii. Method to be adopted for charging of coke fines back into blast furnaces as proposed by PP has not been explained.

xix. The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.

xx. Sensible heat recovery is proposed for Blast furnaces to generate power. This is not possible as BF gas does not have that high temperature. PP has not provided any explanation.

xxi. Size and capacities of individual facilities in Ductile Iron Plant have not been furnished. No details are given about Pollution Control Devices (PCDs) in DIP Plant. PP shall use a 20 T IF in DIP, the Fume Extraction details of IF are not given.

xxii. PP confirms that sizes of Pollution Control Devices (PCDs) is enough to take care of additional pollution load. This seems impossible to meet the stringent PM emission norms of 30 mg/Nm$^3$ with almost 20 % increase in production capacity.

xxiii. It may be noted that out of Rs. 23.05 Cr allocated for addressing issues raised during public hearing Rs.22 Cr are earmarked for the facilities to control pollution within the plant. Only Rs1.05 Cr is left to address public concerns. This need to be revisited as expenditure incurred on abatement and control of environment pollution inside the plant is part of capital expenditure and cannot be considered as expenditure on socio economic development outside the plant. Socio Economic development related EMPs have no time schedule.

xxiv. Mitigation measures suggested for construction and operation are generic and none of these have been quantified. It is like a text book copy.

xxv. Solid waste management plan to ensure 100 % solid waste utilization as per CREP guidelines has not been furnished.

xxvi. Air quality modelling has been carried out for flat terrain without considering the impact of nearby hills and ocean current. While calculating the incremental GLCs, impact of modernization and capacity enhancement of the existing units have not been considered.

**Recommendations of the Committee held on 12-13th August, 2021**

50.1.21 In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings as enumerated at paragraph 50.1.20 above. Further, PP is required to undertake necessary corrective action on the said non-compliances and latest compliance report on the same from the concerned Regional Office of MoEF&CC is required. MoEF&CC may issue a Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as mentioned above.

50.1.22 It was apprised to the EAC that as recommended by EAC, a Show Case Notice (SCN) was issued to M/s. Vedanta Limited by Ministry on 31/08/2021. In response to this, PP submitted point wise reply of SCN on 23/09/2021 and additional reply on 10/11/2021. **EAC has been requested by the Ministry to examine the SCN reply also while appraising the expansion proposal.** Detail of the SCN raised as well as reply of the proponent is given as below:

**SCN point no. 1:** According to the certified compliance report of GSPCB, the PP is yet to comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake.

**Response of PP:**

**a). Storm water discharge:**

Project proponent has assured that company has a proper storm water management plan and regular monitoring of discharge water is undertaken to ensure that the water quality meets the standard. **Additionally, settling pond of capacity 700m$^3$ and two new concrete check dams have been constructed during 2020-2021 at the final discharge point.**
Regarding the complaint received from Dakul Maina resident PP submitted that the said wall in the complaint letter was collapsed due to cyclone Tauktae in Goa on 16/05/2021 not by to storm water runoff. Also, the said compound wall was immediately repaired post the cyclone event.

**b). Fugitive emission control:**

Multiple emission control measures like bag houses, duct extraction system at Coke Oven, ESP’s at Sinter plant, dust suppressant systems (like fog guns, rain guns, sprinklers) at the transfer points, Wind shields towards the direction of habitation and application of road sweeping machines have been already installed

**c). Green belt development:**

Total area of the project is 161 ha. PP has developed green belt in an area of 54 ha by planting around 30000 plants which is about 33.5% of the total area. Besides, PP also proposed for plantation of 7000 saplings are planted by adopting Miyawaki system in the current financial year.

**d). Black topping of 6.38 km road:**

PP submitted that total road length is 13 km and out of which 6.62 km of road is already blacktopped. **The remaining road of 6.38 km is the internal road and same will be black topped or concreted by the April, 2022.**

**e). Slag utilization:**

Total slag generated during 2019-2020 and slag disposed of during 2019-2020 was 127318 tons, while slag generated during 2020-2021 was 298124 tons and slag disposed was 277349 tons, whereas slag disposed of till march 2021 was 404667 tons. **It is reported by PP that around 45000 T slag is balance to be disposed of and stored and temporarily covered with silpauline.**

| Opening stock of slag as on 1st april 2019 | Slag generation in 2019-20 | Total slag | Slag disposed during 2019-20 | Opening stock of slag as on 1st April 2020 | Slag generation in 2020-21 | Total slag | Slag disposed during 2020-21 | balance as on 1st April 2021 | Slag generation April, May & June 2021 | Total slag | Slag disposal till 15/06/2021 | balance as per 15th June 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26762 | 210389 | 237151 | 127318 | 109833 | 188291 | 298124 | 277349 | 20777 | 69928 | 90705 | 46000 | **44705** |

**f). Installation of CAAQMS:**

The additional CAAQMS units was installed by PP in July, 2021 and connected to both GSPCB and CPCB server. Installation was also intimated GSPCB vide email dated 31/07/2021. Now there are total three CAAQMS installed in the plant premises.

**g). Secondary emission control during charging/ material tapping/ slag tapping:**

PP submitted that major secondary emission that releases during tapping are graphite particles which are very small and light in weight (10micron). To prevent these particles from leaking in surroundings fog cannons and windshields with water sprinkling systems have been installed. Additionally, **PP has undertaken the work of construction of windshield of 260m length for preventing release of graphite particles.**

**SCN point no. 2:**

As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard.

**Response of PP:**

PP submitted that major secondary emission that releases during tapping are graphite particles which are very small and light in weight (10micron). To prevent these particles from leaking in surroundings fog cannons and windshields with water sprinkling systems have been installed. Additionally, **PP has undertaken the work of construction of windshield of 260m length for preventing release of graphite particles.**

**SCN point no. 3:**

Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same.

**Response of PP:**
It is submitted that only blow down water generated from the cooling tower of waste heat recovery boilers of the power plant, which will be discarded out in the Mandovi river only after pH adjustment. The discharge of this waste water is a condition in the CTO letter vide dated 06/07/2020. For the storage of the large quantity of slag (45,000 Tons) in open area already replied at ***point e of response against query 1 above***.

**SCN point no. 4:**
There are 18 sites of archeological importance in the study area. In this regard, no approval/clearance from the Archeological Survey of India has been obtained till date although the unit is under operation since 1992.

**Response of PP**:
**Project proponent has prepared the list of all the archaeological sites present within the 10km radius study area and submitted application for NOC from the concerned authorities.** The said sites are not the transport route of the units.

**SCN point no. 5**:
There are 7 schedule I species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992.

**Response of PP**:
The Wildlife Conservation Plan has been approved from Office of The Deputy Conservator of Forests, Wildlife & Eco-Tourism (North) Division, Govt. of Goa vide letter dated 28/05/2021.

**SCN point no. 6**: The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site.

**Response of PP**:
The company has developed and maintained 54 ha i.e. 33.5% of area as green belt within the plant premises. Around 3,00,000 nos of trees exist within the green belt. During the last 10 years, 29614 nos of plants were planted and maintained. During the current financial year around 7000 saplings are planted by adopting Miyawaki system.

50.1.23 M/s. Vedanta Limited has made an online application vide proposal no. IA/GA/IND/236713/2018 dated 08/12/2021. **The proposal was considered in 50th meeting of Reconstituted Expert Appraisal Committee (Industry-1) held on 29th December, 2021 along with the SCN replies submitted by the proponent.**

50.1.24 During the course of meeting, it was apprised to the EAC that Ministry was in receipt of two public representation on 27/12/2021 and 29/12/2021 requesting the Ministry to reject the instant proposal under consideration. In this regard, as opined by the EAC, the said representation has been made available to the proponent for submitting their response. The response submitted by the proponent is given as below:

| S No | Issues/Concerns Raised by public / Stakeholders | Physical Activity & Action Plan | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|
| 1. | Air Pollution | a.) In order to reduce fugitive dust during transportation proper roads and pathways within the plant premises will be made. Out of 13km of existing internal roads; 6.62 km of roads are already black topped, balance internal roads of around 6.38 km will be black topped or concreted in a phased manner by 2023.<br>b) Proper dust suppression systems at site like water sprinkling, road sweeping, fog cannon and rain guns are available and maintained efficiently. Also, R&D for dust suppression at the plant<br>c) For effective dust extraction at the source, new Bag house for effective dust extraction from the coke ovens at Met Coke plant will be installed<br>d) Windshield of 220m will be installed at the boundary of the plant to avoid any dust escaping the plant boundaries<br>e) Identification of native species and plantation within and around the plant | The project proponent in reality have completely failed to carry out the hot mixing and asphalt the roads of the internal as well as the connecting public road which has been a major cause for air pollution. In fact, the project proponent carries out transportation of coal and iron ore using the public road connecting plants at Amona and Naveli is round the clock filled with dust which has become major cause for air pollution.<br>The project proponent in reality neither have such machinery in place nor make use of such technology. Statements of this nature are only made on paper to mislead and misrepresent the true facts.<br>Project proponent have failed to comply with condition to install bag house despite there being direction from the Hon'ble High Court. The Petitioner infact is in process to file contempt in the High Court of Bombay at Goa.<br>It may also be noted that Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA- | As committed in PP response to SCN and presentation made to the EAC, PP reiterate that out of 13km of existing internal roads; 6.62 km of roads are already black topped, balance internal roads of around 6.38 km will be black topped or concreted by April 2022.<br>Regarding the transportation of iron ore and coal on public roads, it is undertaken with adequate measures which includes covering the carriage hood with tarpaulin during transportation. In addition, we have mechanized road sweeping machines to clean the internal as well as external roads in and around the plant premises.<br>All the blast furnaces are fitted with dust extraction system, for fugitive dust capture which includes bag house. Infact, we have installed a new bag house at one of blast furnaces (BF 2) to meet the stringent pollution norms. We are further committed to modernize/upgrade the bag houses fitted to BF1 and BF3.<br>PP have responded to the Show Cause Notice on September 24th 2021 followed by |

| S No | Issues/Concerns Raised by public / Stakeholders | Physical Activity & Action Plan | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|
| | | premises. Improving and developing the green belt area in and around the plant will further reduce dust pollution. | II(IND-I) dated 31/08/2021. | submission of satisfactory compliance report of Moef regional office Bangalore. |
| 2. | Water Pollution | New settling ponds and check dams before monsoon. During monsoon rain water will be channelized into these settling ponds for settling; annual desilting of the settling ponds being taken up | Ministry of Environment has Upstream and downstream reports dated 02/11/2019 of Mandovi river near the premises of the project proponent from the office of the Goa State Pollution Control Board and it is clearly indicated that Feacal Coliform count results in Downstream are more as compared to Up Stream River dated 02-01/2019. Some in other reports dated 16/06/2020 and 01/06/2020 clearly shows that there is addition of sewage water. Till the situation is the same.<br>The people residing in vicinity have also filed complaints before the Goa State Pollution Control Board pointing out the menace of water pollution which is caused from run off particles from the stacked slag, coal and iron ore which has destroyed the natural water lake. | There is no discharge of sewage effluents from the project site into the Mandovi River. The STPs discharge is used directly for process requirement through a closed loop system.<br>With respect to the complaints pertaining to alleged water pollution due to stacked slag, iron ore and coal, we state that coal is stored in covered shed. Iron ore is stored in covered shed or covered with silpauline. Further, stacked slag is properly covered with silpauline before the onset of monsoon. The material storage yards are provided with garland drains to catch overflow if any. In the current EMP proposal, we have undertaken to construct sheds for storage of iron ore and slag respectively. |
| 3. | Health Screening and Assessment | a) Health screening and assessment through Mobile Health Unit, medical health center etc.<br>b) Health camp in the surrounding villages | No proper Health Facility is provided in the local in the surrounding villages. Proper periodic health assessment of people living in vicinity shall be conducted as demanded in public hearing so as to assess the impact on health | PP operate two community medical centers for the last ten years one each in Navelim and Amona villages. Through these centers, we provide free medicines and doctor consultations. In addition to this |

| S No | Issues/Concerns Raised by public / Stakeholders | Physical Activity & Action Plan | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|
| | | | due to operation of the ongoing plants. | various health screening camps and awareness sessions are organized for community and educational institutes. |
| 4. | Employment | a) Vedanta gives preference to the eligible local people in terms of employment either directly or through business partners, depending on requisite qualifications, skill levels etc.<br>b) Vedanta Ltd will continue to support local illiterate youth from affected villages through various skill development & educational initiatives as a part of CSR. | In public hearing the locals had taken up the issue of employment on primarily.<br>Till date they have failed completely to comply with the same. The same can be verified through local inquiry. It may be noted that the company only under employ the youths and have failed to provide sufficient opportunity as per their qualifications.<br>Proponent till date has failed to support in literacy of the locals which can be verified through proper local inquiry.<br>Project proponent only believes in photo opportunities and advertisement. | In the proposed project PP has estimated to employ 450 people in different skill sets depending on the requirement. PP endeavour has always been and will be to employ maximum locals from the State of Goa depending on eligibility, qualifications and requirement. In our current operations, 1009 locals from the State of Goa are employed.<br>Regarding literacy rate, in the thematic area of education under CSR we have well defined and structured programs to support the schools in the nearby community through scholarships for the needy and active engagement with the school officials on need based infrastructural activities like support to computer laboratories, drinking water facilities, sanitation in schools. In addition, we conduct awareness sessions for students and skill development programs for teachers. |
| 5. | Skill Development to Local People | Proper training facilities and exposure will be provided to the local youth for their skill | There are no training facilities at present and they have closed existing technical school at Sanquelim | This is a false allegation as the Company continues to run existing technical school at Sanquelim |

| S No | Issues/Concerns Raised by public / Stakeholders | Physical Activity & Action Plan | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|
| | | development through Sesa Technical School, located at Sanquelim village. | Village in 2012. | Village. In addition to this, the Company also runs Football Academy to identify and nurture the young talent from local and nearby communities. Further, through Vedanta Foundation we have established multiple computer literacy centers across the State of Goa. |

## Additional Action Plan

| S No | Action Plan | Present Status dated 27.12.2021 | Response by Project Proponent dated 29.12.2021 |
|---|---|---|---|
| 1. | In point 42.1.15 Greenbelt has been developed in an area of 54 ha (133.43 acres) which is about 33 % of the total project area. Existing green belt density is about 548 trees per ha, further 1952 trees per ha to be planted as per the CPCB guideline. | They have failed to develop the greenbelt and the authorities in fact have in writing raised this concern time and again.<br>It may be noted that the company in fact has destroyed the natural habitat in and around their plant for purpose of constructing road and storage godowns. | A thick greenbelt in an area of 54 hectares exist in the project site which is 33.5% of the total project area. The Company carries out annual plantation in the greenbelt area to fill the gaps. In the year 2021, 7500 saplings of native species were planted. Further, we have not destroyed natural habitat in and around the plant site. |

## In point no. 42.1. Re-assessment/ present status as furnished by the PP and present status is given as below:

| S No | Areas of improvement Reported If any | Corrective Action Taken | Status given | Remarks | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|---|---|
| 1. | Control of secondary fugitive emissions from all the sources | a) Rain guns and fog cannons are used frequently<br>b) All raw material fines are covered with silpaulin | We ensure to prevent fugitive emissions | We further undertake to continually improve our environment performance | Through the Satellite view it can be clearly seen that all these years they have not taken proper care to cover the raw materials till today which shows that the said issue is not addressed yet. | All the raw materials stacks including iron ore and fluxes which are stored in open yards are covered with silpoline or stored in covered sheds. Raw materials which are in transit or in consumption are uncovered. 100 percent coking coal is stored in covered sheds. The excess slag is also covered with silpoline and it is further proposed to construct a structural shed for |

| **S No** | **Areas of improvement Reported If any** | **Corrective Action Taken** | **Status given** | **Remarks** | **Present Status dated 27/12/2021** | **Response by Project Proponent dated 29/12/2021** |
|---|---|---|---|---|---|---|
| | | | | | | storage of slag in monsoons. |
| 2. | All the slag be granulated and provided to cement manufacturers | Slag is sold to cement industry | Slag Generation 2020-21: 188291 Tons Slag Disposal 2020-21: 277349 Tons | Slag generation is a continuous process and entire slag is sold to cement industry within and outside our country. | The Slag is being transferred in the mandovi river. The discharge is proved in the upstream and downstream reports of the Goa State Pollution Control Board dated 02/11/2019, 16/06/2020, 01/06/2020 | The slag is covered with silpoline and it is further proposed to construct a structural shed for storage of slag. Therefore, there is no question of any slag getting transferred to Mandovi River. |
| | Control of vehicular pollution due to transportation | The following measures are being implemented:<br>a) Water sprinkling through tankers<br>b) Road sweeping on transportation roads<br>c) PUC check at the gate<br>d) Trucks are covered with tarpaulin during transportation | - | We further undertake to continually improve our environment performance | Periodical inquiry will show that the project proponent neither carries out sweeping nor sprinkling which has resulted in annoyance and hardship to genera public on account of air pollution. | Within the plant premises on all the finished roads, regular tanker water spraying is deployed in the dry season. In addition to this, PP has deployed two road sweeping machines for dry dust sweeping and suction to maintain the road conditions. |
| 4. | In plant control measures for checking fugitive emissions be adopted | The following measures are being implemented:<br>a) Bag houses are installed at the Blast Furnace (BF)<br>b) Closed conveyor is used<br>c) Raw material fines are covered with silpaulin<br>d) Rain guns, | | We further undertake to continually improve our environment performance | Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-II(IND-I) dated 31.08.2021.<br>The project proponent in also in contempt of the Order dated 23/08/2021 in Writ Petition | As clarified earlier, PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of Moef regional office Bangalore.<br>It is submitted that allegation of contempt is false and incorrect. PP has not committed contempt of any court order. |

| S No | Areas of improvement Reported If any | Corrective Action Taken | Status given | Remarks | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|---|---|
| | | Mayura curtains and fog cannons.<br>e) Road sweeping machines<br>f) Wheel wash system at the exit gate<br>g) Dust extraction systems for screening plants<br>h) Dust suppression systems for material handling plants<br>i) Wind shields fitted with sprinkler system along the plant boundary | | | 881/2017 passed by the Hon'ble High court of Bombay at Goa. | |
| 5. | Additional filter beds, arrester wall shall be provided along the Storm Water Drainage for settlement of Suspended Particles and to prevent siltation. The runoff water shall be diverted in settling ponds to prevent any siltation of river/ nallah/ fields. | a) We have 11 numbers of settlings at the area and this year we have constructed additional settling pond of 700 m3 capacity. Water from these settling ponds is also used for process purpose. Further, it is to inform that all the storm water is channelized into series of settling ponds, check dams and discharged | | We further undertake to continually improve our environment performance | Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-II(IND-I) dated 31/08/2021.<br>The project proponent in also in contempt of the Order dated 23/08/2021 in Writ Petition 881/2017 passed by the Hon'ble High court of Bombay at Goa. | As clarified earlier, PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of Moef regional office Bangalore.<br>It is submitted that allegation of contempt is false and incorrect. PP has not committed contempt of any court order. |

| S No | Areas of improvement Reported If any | Corrective Action Taken | Status given | Remarks | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|---|---|
| | | out in a controlled manner.<br>b) The discharged water is monitored at regular intervals and the water quality is within the permissible limits | | | | |

**Additional recommendation during the Environmental Clearance amendment on 25/04/2012 and present status: -**

| S No | Condition detail | Condition no of EC dated 12/04/2012 | Observation of GSPCB | Present Status dated 27/12/2021 | Response by Project Proponent dated 29/12/2021 |
|---|---|---|---|---|---|
| 1. | Environmental Statement for each financial year ending 31st march in Form V as is mandated to be submitted by project proponent to GSPCB as prescribed under EPR 1986 shall also be put on the website of the company along with the status of the compliance of Environmental conditions and shall also be sent to respective ROs of MOEF by e-mail. | 3 | The Environmental Status for all units viz Coke Plant, power Plant, Blast Furnace and sinter plant for year 2019-20 was submitted in September, 2020. **The environmental statement needs to be uploaded on the company website** | Proponent has already expanded Blast Furnace 3 before the Public Hearing Conducted.<br>Proponent has illegally constructed Dry Beneficiation plant and it is before High Court of Bombay at Goa bearing Civil Application no. 33 0f 2021. Complaints by Alleges have already been filed | PP hereby state that there is no blast furnace expansion carried out till date. However, due to the end of campaign life and repeated refractory failures we have carried our relining of the blast furnace-3 with intimation to the concerned statutory authorities. In fact, same issues were raised in the High Court which were disposed off on merits based on submission of inspection report by GSPCB. |

**Additional conditions as per Amendment to Environmental Clearance dated 07/01/2020 and present Status: -**

| S No | Conditional Detail | Condition no of EC dated 07/01/2020 | Observation of GSPCB | Present Status dated 27/12/2021 | Response by the Project Proponent dated 27/12/2021 |
|---|---|---|---|---|---|
| 1. | Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent | 1 | It appears that the storm water is discharged directly from the premises without adequate settling to the adjoining area including the water | No single improvement is witnessed by the people in vicinity as even today the locals are suffering a lot. | As submitted to the Ministry, the plant has a proper storm water management by virtue of which the entire surface run off is channelized through drains |

| S No | Conditional Detail | Condition no of EC dated 07/01/2020 | Observation of GSPCB | Present Status dated 27/12/2021 | Response by the Project Proponent dated 27/12/2021 |
|---|---|---|---|---|---|
| | siltation. The runoff water shall be diverted | | bodies. The GSPCB was in receipt of a recent complaint from the resident of Dhakul Maina wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the company and the storm water without any settling had flow to the village temple lake. GSPCB is in the process seeking clarification from the unit and further necessary action may be taken based on the submission made by the unit. | | through a series of settling ponds to allow the silt to settle and clean water from the final settling pond is recirculated back to the process. |
| 2. | Maina wherein it was alleged that the surface runoff flow had resulted in the collapse of the compound wall of the company and the storm water without any settling had flow to the village temple lake. GSPCB is in the process seeking clarification from the unit and further necessary action may be taken based on the submission made by the unit. | 2 | Most of the internal roads are black top. However, balance internal road of around 6.38 km will be black topped or concreted in a phase manner by 2023. Also, it will be pertinent to note that budget is allocated for the same annually. | Ministry of Environment has recently issued Show cause notice for failure in this regard vide no. 509252/2021/IA-II(IND-I) dated 31/08/2021.<br>Recent photographs of ongoing pollution have been submitted. | As clarified earlier, PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of MoEF&CC regional office Bangalore. The Show Cause responses were also substantiated with photographs and documents as applicable during the course of EAC meeting held on 29/12/2021. |
| 3. | One additional continuous ambient air quality monitoring station (CAAQMS), in consultation with GSPCB shall be established within the project premises towards the adjoining village and monitoring reports shall be submitted | 4 | The unit is presently operating two CAAQMS within the premises and the data so generated is made available to the CPCB and GSPCB servers. Additional CAAQMS machine procured and available at site. The installation is pending due to COVID-19 pandemic. | As per the office records of the Goa State Pollution Control Board, the office has regularly issued show cause notices to the proponent on failure to stop the pollution. Till today Air Quality Index report shows much fluctuation. | The point raised here pertaining to air pollution is baseless. As stated, the third CAAQMS station is installed and commissioned in July 2021 and connected to GSPCB and CPCB servers. As explained and committed PP shall further endeavor to install new and upgraded bag house |

| S No | Conditional Detail | Condition no of EC dated 07/01/2020 | Observation of GSPCB | Present Status dated 27/12/2021 | Response by the Project Proponent dated 27/12/2021 |
|---|---|---|---|---|---|
| | to Goa State Pollution Control Board (GSPCB) and CPCB. | | | | systems, dust suppression units, windshields, fog-guns etc. to additional comply to the stringent pollution norms. |
| 5. | Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process. | 6 | Bag filters are provided to control the secondary emission with the hoods at the emission sources. The board had carried out dust fall measurements in the surrounding villages of the unit namely at two locations in Amona village and one location each in Navelim Village and Betki Village from 28/04/2020 to 28/05/2020. As per the report, shiny particles have been observed on the dust fall sampler located at Amona and Navelim during the monitoring days. | As per the office records of the Goa State Pollution Control Board, the office has regularly issued show cause notices to the proponent on failure to stop the pollution. Till today Air Quality Index report shows much fluctuation. | The point raised here pertaining to air pollution is baseless. As stated, the third CAAQMS station is installed and commissioned in July 2021 and connected to GSPCB and CPCB servers. As explained and committed PP shall further endeavor to install new and upgraded bag house systems, dust suppression units, windshields, fog-guns etc. to additional comply to the stringent pollution norms. |

## Observation of the Committee dated 12-13th August, 2021 and its present Status: -

| S No | Observations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| i. | In the instant proposal, the units namely Blast Furnace (2,92,000 m3) and Coke Oven Plant (3,20,000 TPA) are running on the strength of the CTE/CTO from Goa State Pollution Control Board. Besides, PP has obtained EC during 2009 for Blast furnace – 9,00,000 TPA; Sinter Plant – 2,00,0000 TPA; Coke Oven Plant – 6,00,000 TPA and Power Plant 60 MW based on WHRB. However, project proponent has not integrated the said units till date. EIA report needs to be revised by integrating all the units and cumulative impact assessment needs to be carried out. | In the Minutes of Meeting of 42nd meeting of the Re-constituted EAC (Industry-I) held on 12 – 13th August, 2021 clearly depicted that the existing plants of the proponent is not integrated and also indicated that the present projects are seen different from the projects which were given Environment Clearance. | As explained during the course of meeting and submitted as part of the response to the EAC observations. PP has applied for amalgamated consents to operate from GSPCB dated 29/09/2021 which is under consideration. Through this proposal, PP has approached Ministry to grant a consolidated EC for the existing as well as proposed projects (which includes projects commissioned prior to EIA notification, 1994). |
| ii. | The existing and proposed configuration of Blast Furnace, Sinter | In the Minutes of Meeting of 42nd meeting of the Re-constituted | As explained during the course of meeting and |

| S No | Observations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| | Plant, Coke Oven Plant, Ferro Alloy Plant and Power Plant are neither reflected in the EIA report nor in the presentation made before the EAC. | EAC (Industry-I) held on 12 – 13th August, 2021 clearly depicted that the existing plants of the proponent is not integrated and also indicated that the present projects are seen different from the projects which were given Environment Clearance. | submitted as part of the response to the EAC observations. PP has applied for amalgamated consents to operate from GSPCB dated 29/09/2021 which is under consideration. Through this proposal, PP has approached Ministry to grant a consolidated EC for the existing as well as proposed projects (which includes projects commissioned prior to EIA notification, 1994). |
| iii. | The company has obtained one EC and being operated in piece meal consents from GSPCB in the name of Pig Iron Division, Sinter Plant Division, Met Coke Division and WHRB Division which is creating confusion while evaluating the implementation status of the EC | In the Minutes of Meeting of 42nd meeting of the Re-constituted EAC (Industry-I) held on 12 – 13th August, 2021 clearly depicted that the existing plants of the proponent is not integrated and also indicated that the present projects are seen different from the projects which were given Environment Clearance. | As explained during the course of meeting and submitted as part of the response to the EAC observations. PP has applied for amalgamated consents to operate from GSPCB dated 29/09/2021 which is under consideration. Through this proposal, PP has approached Ministry to grant a consolidated EC for the existing as well as proposed projects (which includes projects commissioned prior to EIA notification, 1994). |
| iv. | There is a jetty in the vicinity of the project site which is being used for material transportation. The dimensions of the jetty and the material handling capacity of the jetty for the existing and proposed expansion has not been made available. Clearances if any obtained, under the provisions of CRZ, 1991 and its subsequent amendments has also not been informed. | No permission is taken from the river and navigation department of the existing number of jetties. | PP deny the said allegation and permission from River and Navigation Department is in place. PP is regularly paying riverine charges as per the requirement. |
| v. | There are 18 sites of archaeological importance in the study area. In this regard, no approval/clearance from the Archaeological Survey of India has been obtained till date although the unit is under operation since 1992. Impact assessment on archaeological sites/ historical monuments due to the existing and proposed expansion of the plant has not been carried out. | Protected archaeological sites are in the buffer zone of the company like Pandava caves at Harvalem, Old Goa Chruch, Birds spot at Navelim, etc.<br>Put this para<br>There are protected sites and monuments existing within the close radius of just 2 to 5 kilometers from the Vicinity of | As discussed, and clarified during the course of meeting to EAC, PP has applied for NOC from Department of Archaeology. Further, PP has also carried out impact assessment which shows that there is no significant impact of our activities on |

| S No | Observations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| | | Existing and Proposed plant of Vedanta. These ancient Monuments and sites are protected under Goa Ancient monuments and archaeological sites and remains Act 1978 and rules 1980. Cave of Siddhanath at tar Surla and Mosque andTank at Tar Surla are located in the neighbouring Village Surla, which is located within a distance of 2 km from the Vedanta Plant at Amona-Navelim.<br>Site Of Gujir is located in neighbouring village Kudne, which is also located within the distance of less than 2 km from the Existing and proposed Plant of Vedanta at Amona and Navelim.<br>Fortresse of St Estevam Jua Tiswadi is also located within the distance of less than 2 km from the Existing and proposed Plant of Vedanta at Amona and Navelim.<br>Similarly, Pandava cave at Harvalem and Fort of sanquelim are also located within the distance of less than 8 km from the Existing and proposed Plant of Vedanta at Amona and Navelim. There areatleast 5 churches and chapels and sites located at Old Goa which is within theis also located within the distance of less than 9 km from the Existing and proposed Plant of Vedanta at Amona and Navelim.<br>No study about the cumulative impact of pollution on these ancient monuments is done till date. there is a bird resting site/ wetland in village navelim which is located within the distance of less than 1 km from the Existing and proposed Plant of Vedanta at Amona and Navelim.<br>No permission in this regard is obtained from the concerned Authority. Therefore, in this background no additional or new projects of Vedanta company can be brought in Village Amona and Navelim. | archaeological monuments. |
| vi. | According to the certified compliance report of GSPCB, the PP is yet to | Not yet complied as alleges have not witnessed a single | The response to the said allegations has already |

| S No | Observations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| | comply with the conditions pertaining to treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 km road, slag utilization, installation of CAAQMS, secondary emission control during charging/material tapping/slag tapping. Further, as per the GSPCB report, storm water is being discharged directly from premises without adequate settling to the adjoining areas including the water bodies. GSPCB is in receipt of a complaint from the resident of Dhakalmaina wherein it was alleged that the surface runoff flow had resulted in the collapse of compound wall of the company and storm water without any settling had flown to village temple lake. | development. | been provided in the above points and covered in the response to EAC observations. Further, compliance to these observations have been verified and certified by IRO MoEF&CC and GSPCB during the joint inspection in October, 2021. |
| vii. | As per the ambient air quality carried out by the GSPCB, adjoining villages of Navelim and Amona indicated that presence of shiny particles settled on the monitoring equipment which appear to be generated from the Blast Furnace operations. No explanation is provided by the proponent in this regard. | As per the office records of the Goa State Pollution Control Board, the office has regularly issued show cause notices to the proponent on failure to stop the pollution. Till today Air Quality Index report shows much fluctuation. | The response to the said allegations has already been provided for in the above points. |
| viii. | Zero liquid discharge has not been achieved till date as the blow down from cooling tower is being let out into the Mandovi river. No explanation is provided by the proponent in this regard. Further, large quantity of slag (45.000 Tons) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same. | The Slag is being transferred in the mandovi river. The discharge is proved in the upstream and downstream reports of the Goa State Pollution Control Board dated 02/11/2019, 16/06/2020, 01/06/2020 | The response to the said allegations has already been provided in the above points. |
| ix. | As per the base line data collected, the BOD in the surface water sample is reported as less than 3 mg/lit whereas COD reported values are 50 mg/l, 60mg/l and 70 mg/lit respectively which seems incorrect and no clarification for the same provided. Location of the water quality sampling stations as well as positioning of air quality samplers at monitoring stations are not in conformity with the CPCB guidelines. Riverine ecology study has not been carried out at all. In view of this, fresh data (one month) needs to be | The Slag is being transferred in the mandovi river. The discharge is proved in the upstream and downstream reports of the Goa State Pollution Control Board dated 02/11/2019, 16/06/2020, 01/06/2020 | The response to the said allegations has already been provided in the above points. |

| **S No** | **Observations** | **Present Status dated 27/12/2021** | **Response by the Project Proponent dated 29/12/2021** |
|---|---|---|---|
| | collected. Besides, PP needs to clarify about the monitoring methodology for O3, NH3 and BaP etc., as the monitoring has not been carried out properly. | | |
| x. | There are 7 schedule species in the study area. In this regard, requisite wild life conservation plan has not been prepared and implemented till date although the unit is under operation since 1992. | Same is not complied yet. | There are 7 schedule I species in the study area namely Peacock, Crocodile, Shikra, Common Indian Monitor Lizard, Gaur, Indian Python and Leopard.<br>The Wild Life Conservation Plan (WLCP) has been prepared & got approved by Chief Wild Life Warden, Government of Goa vide Letter No: 1-576 (PART) WL & ET (N)/2021-2022/554 dated 28/05/2021 |
| xi. | Public Hearing was conducted on 14.3.2021 and 21.3.2021 based on the Order of Hon'ble High Court of Bombay. 817 people attended the PH and most of the attendees opposed the project expansion citing pollution, health, education and unemployment issues etc. PP failed to submit the point wise response to the issues raised in public hearing and action plan with physical target as per MoEF&CC O.M. dated 30/09/2020 has not been submitted. | Same is not complied. It is verified by the office of the Goa State Pollution Control Board letter vide no. 8/33/2021 -PCB/legal/15516 dated 29/11/2021. | PP has prepared action plan for all the issues raised in the public hearing along with physical targets. The same has been presented to the EAC during appraisal dated 29/12/2021. As suggested by EAC, few changes have been made duly submitted. |
| Xii. | Incomplete/inaccurate and inconsistent information has been furnished in most of the sections of Form 2. | Same is manipulated diplomatically. | The allegation is denied as revised Form 2 has been submitted to MoEF&CC. |
| xiii. | EMP cost is indicated as Rs. 35.0 Cr on a CAPEX of Rs.701.0 Cr. This is just 5 % of CAPEX which is grossly inadequate. For a BF- Coke Oven and DIP complex the EMP cost shall be around 15 % of CAPEX. | - | - |
| xiv. | Total water requirement is 12794 KLD out of which only 9600 KLD is drawn from Mandovi River and balance is drawn from old abandoned pits of iron ore mines (Harvested rain water). Subsequently, PP has informed that permission for withdrawal of 10000 KLD of water from Balvot river has been obtained. There is no clarity on the source of water for the existing and proposed | No feasibility report done for the approval of such large amount of water taken of downstream of Mhadaei river. | As presented and clarified during the course of appraisal to the EAC most of the water required for the proposed expansion will be met from rain-water harvesting/accumulated water in mine pits and partly from Bandara/river as and when required for which necessary |

| S No | Observations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| | expansion. | | permissions are in place. |
| xv. | Load bearing capacity (Million Standard Axle) of the existing connecting road vis-à-vis with vehicles plying on the road has not been carried out. | Not yet complied. | Clarified during the course of appraisal to the EAC on the matter. |
| xvi. | Energy recovery systems like TRT, sinter cooler waste heat recovery, BF hot stove waste heat recovery, dry gas cleaning of BF gas have not been considered in the proposal. | List of hazardous waste and its emission of indicated through the report of Goa State Pollution Control Board bearing no.8/33/2021 -PCB/legal/15516 dated 29/11/2021 dangerous gases like Benzene, nitrogen Sulphur dioxide are been emitted. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xvii. | List of Hazardous waste does not include bitumen coated sand, Zinc dross, cement slurry generated from DIP plant. | The detailed report of emission of gases are missing in the EIA submitted. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xviii. | Method to be adopted for charging of coke fines back into blast furnaces as proposed by PP has not been explained. | The detailed report in this regard is missing. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xix. | The density of green belt development in the existing area is much less than the CPCB norms of 2500 trees per ha because they have planted only 29614 plants in 54 ha. Moreover. Green belt has not been developed all along the periphery of the site. | They have failed to comply with the greenbelt development as authorities have in written asking them for the provision from the long time but till date it is not done. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xx. | Sensible heat recovery is proposed for Blast furnaces to generate power. This is not possible as BF gas does not have that high temperature. PP has not provided any explanation. | The proponent has no control over the recovery of heat. No detailed report in the EIA submitted till date | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xxi. | Size and capacities of individual facilities in Ductile Iron Plant have not been furnished. No details are given about Pollution Control Devices (PCDs) in DIP Plant. PP shall use a 20 T IF in DIP, the Fume Extraction details of IF are not given. | The details are missing in the present EIA | Necessary details have been included in the EIA submitted to the Ministry. |
| xxii. | PP confirms that sizes of Pollution Control Devices (PCDs) is enough to take care of additional pollution load. This seems impossible to meet the stringent PM emission norms of 30 mg/Nm3 with almost 20 % increase in production capacity. | No proper report on future possibility of pollution. Proponent has failed to control the current pollution. | Necessary details have been included in the EIA submitted to the Ministry and clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xxiii. | It may be noted that out of Rs. 23.05 Cr allocated for addressing issues raised during public hearing Rs.22 Cr are earmarked for the facilities to control pollution within the plant. Only Rs1.05 Cr is left to address public concerns. This need to be | Investment made by the proponent in crores have not benefitted the locals. Proponent has failed in maintaining good relations with the locals.<br>Scrutiny of the statement of | Clarified during the course of appraisal to the EAC. Further, employment opportunities have been provided and will be provided to the locals as per their eligibility to meet |

| S No | Observations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| | revisited as expenditure incurred on abatement and control of environment pollution inside the plant is part of capital expenditure and cannot be considered as expenditure on socio economic development outside the plant. Socio Economic development related EMPs have no time schedule. | accounts will also show that the project proponent has failed to discharge their obligation under the Companies Act under CSR as they have not appropriated required percentage of funds annually. | the job requirements. The necessary training on skill development and career counselling is also taken up under the CSR initiative. |
| xxiv. | Mitigation measures suggested for construction and operation are generic and none of these have been quantified. It is like a text book copy. | Mitigation measures in detail is missing. There are no safety measures taken in the operation of plants. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xxv. | Solid waste management plan to ensure 100 % solid waste utilization as per CREP guidelines has not been furnished. | Details are missing in recent submitted EIA. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |
| xvi. | Air quality modelling has been carried out for flat terrain without considering the impact of nearby hills and ocean current. While calculating the incremental GLCs, impact of modernization and capacity enhancement of the existing units have not been considered. | Proponent is already failed to control over the current emission of pollution. | Clarified during the course of appraisal to the EAC and presentation submitted on the matter. |

**Recommendation of the Committee and present status: -**

| S No | Recommendations | Present Status dated 27/12/2021 | Response by the Project Proponent dated 29/12/2021 |
|---|---|---|---|
| | In view of the foregoing and after detailed deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings as enumerated at paragraph 42.1.19 above. Further, PP is required to undertake necessary corrective action on the said non-compliances and latest compliance report on the same from the concerned Regional Office of MoEF&CC is required. MoEF&CC may issue a Show Cause Notice to the Project Proponent for the non-compliance to the existing EC conditions as mentioned above. | The recent submitted EIA is not practical. Shortcomings of the previous EAC meeting are conditions are compiled diplomatically and it is not practical.<br>It may be noted that the project proponent ought to have carried out environment impact assessment again considering the recommendation of the committee and requires to put before general public in a public hearing in terms of EIA Notification. | Necessary changes in EIA have been carried out as per EAC recommendations and submitted accordingly. The same has been presented during the course of appraisal by EAC on 29/12/2021. |

**Ministry of Environment, Forest and Climate Change issued further Show Cause notice to the Project Proponent vide no. 509252/2021/IA-II(IND-I) dated 31/08/2021. Till today project proponent is failed to comply with the conditions.**

**Response by PP:**

PP has responded to the Show Cause Notice on 23/09/2021 followed by submission of satisfactory compliance report of MoEF&CC Integrated Regional Office, Bangalore. The Show Cause Notice responses were also substantiated with photographs and documents as applicable during the course of EAC meeting held on 29/12/2021. Detail of point wise reply made by PP has been explained at para 50.1.22 above.

**Beside this PP also made reply of representation made to the Goa State Pollution Control Board regarding land dispute and construction of facilities of expansion proposal given as below:**

**Response by PP:**
With respect to the allegation regarding the complaint by the Goa Foundation to office of the Goa State Pollution Control Board pertaining to the Dry Beneficiation Plant, PP vehemently deny that any such illegal construction of Dry Beneficiation Plant has been carried out by PP and such complaint is completely unfounded. PP further stated that the allegation pertaining to illegal construction of Blast Furnace 3 without appropriate approvals is baseless as an identical issue was raised by another person before the High Court of Bombay at Goa which has been dismissed on merits vide order dated 03/08/2021. Concerning the land property dispute with the Communidade of Amona, PP stated that the said property was granted to the project proponent by the order of Government and accordingly, PP has acted in full compliance of applicable law and followed the due process of law. However, the Communidade of Amona has filed a suit before Civil Court contesting the lawful grant of property and the same is pending for adjudication.

50.1.25 During the meeting, project proponent submitted written submission on the following points:

- PP submitted the revised action plan to address the public hearing issues as per O.M. dated 30/09/2020. Detail of revised action plan has been updated at para 50.1.13 above.
- PP submitted the pointwise response of public representations submitted to the Ministry for instant proposal. Detail has been updated at para no 50.1.24 above.
- PP informed that there is Mhadei WLS located within 9.8km from the expansion project site for which EC was accorded on 3/06/2009. Permission from SCNBWL has not been applied as there was no condition prescribed to this effect in the EC accorded on 3/06/2009. Subsequently, ESZ notification was issued on 24/02/2015. Since, the project site is located outside ESZ boundary permission from SCNBWL is not applicable.

**Observations of the Committee**

50.1.26 The committee noted the following:

i. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.

ii. The EAC also deliberated on the certified compliance report of RO, written submissions, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.

iii. It has been reported by the PP that the existing capacity of the Jetty (4 grabs) is 7 MTPA of material handling (loading as well as unloading) while the requirement of material to be handled for the entire complex after the proposed expansion will be maximum of 2.5 MTPA only. The jetty is in operation prior to CRZ Notification 1991. There is no expansion of the jetty capacities since the time of establishment. The existing jetty is capable of handling the additional load of the proposed expansion. In view of this, PP claimed that CRZ clearance for the jetty is not applicable.

iv. Consolidated EC may be issued for the instant proposal as the PP has amalgamated the units operating under the consent from GSPCB with the instant expansion proposal under consideration.

v. In addition to the above, the EAC also deliberated upon the reply submitted by the proponent against the show cause notice 31/08/2021. The committee satisfied with the SCN replies of the proponent except the following SCN points which are yet to be complied by the proponent.

| S.No. | Issus stated in the SCN | Time frame sought for compliance | View of EAC |
|---|---|---|---|
| i. | Black topping of 6.38km road. | 6.62 km of road out of 13km is already blacktopped and **remaining road of 6.38 km will be black topped or concreted by the April 2022.** | This point may be prescribed as a specific condition in the EC to be accorded. Time frame shall be strictly adhered by the PP, failing which, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986. |
| ii. | Further large quantity of slag (45000 T) is stored at the site in open. No action plan has been submitted nor any explanation given by the project proponent for disposal of the same | As on date, the project proponent has reported 45000T of slag is stored till date and PP has committed to disposed of the same in next financial year. Further, assured to provide covered storage shed for slag by May, 2022. | This point may be prescribed as a specific condition in the EC to be accorded. All the slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in by May, 2022. In case of failure by the PP, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986. |
| iii. | There are 18 sites of archaeological importance in the study area. In this regard, no approval / | PP has submitted their application seeking NOC from Archaeological Survey of India and the same is yet to be obtained. | This point may be prescribed as a specific condition in the EC to be accorded. As per the AAQ modeling carried out by the |

| S.No. | Issus stated in the SCN | Time frame sought for compliance | View of EAC |
|---|---|---|---|
| | clearance from the Archaeological Survey of India has been obtained till date although the unit is in operation since 1992. | | PP, there is no significant impact on the 18 archeological sites. However, the requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022. In case of failure by the PP, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986. |
| iv. | Graphite particle dust in nearby areas. | PP has undertaken the work of construction of windshield of 260m length for preventing release of graphite particles. | Wind Shield for control of graphite particle emissions shall be provided by March 2022. This point may be prescribed as a specific condition in the EC to be accorded. In case of failure by the PP, SPCB may be asked to legal action under the relevant provisions of Environment Protection Act, 1986. |

vi. The EAC also deliberated on the response submitted by the proponent with respect to the public representations and found it satisfactory.

**Recommendations of the Committee**

**I. Expansion proposal**

50.1.27 In view of the foregoing and after detailed deliberations, the committee recommended the proposal for grant of Environment Clearance (EC) under the provisions of EIA Notification, 2006 in supersession of existing ECs subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22/34/2018/III dated 9/8/2018 based on project specific requirements.

**A. Specific conditions**

i. The project proponent shall abide by all orders and judicial pronouncements, made from time to time in case no. 47 of 2013 before the Hon'ble National Green Tribunal, Case No. 881/2017 in Hon'ble High Court of Goa; Case No. 24/2015 before the Hon'ble District Court, Mapusa.

ii. Green Belt shall be developed in 54 hectares of land (33.5 % of total land) with tree density of 2500 trees per ha by 31/12/2022 all along the periphery of the project site. This shall include, gap filling which shall be done in existing green belt developed area wherever tree density is less than 2500 trees per ha. This shall include green belt development within the site with a width of 25 meters towards the Amona village and Navelim village located a distance of 0.32 km and 0.05km from the project site respectively.

iii. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

iv. The project proponent shall comply with the following points by on (or) before 31/05/2022 as committed below by the proponent, failing which, GSPCB shall initiate legal action against the proponent under the relevant provision of the Environment (Protection) Act, 1986. Further, compliance status in this regard shall be submitted to the concerned Regional Office of the MoEF&CC along with the six-monthly compliance report.
    a. 6.38 km internal plant road shall be black topped or concreted by April 2022.
    b. All the stored slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in place by 31st May, 2022.
    c. There are 18 sites of archaeological importance in the study area. Requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022.
    d. Wind Shield for control of graphite particle emissions shall be provided by March 2022.

v. Ductile Iron (DI) plant shall have the following provisions:
    a. Wet scrubbers for Volatile Organic Compounds in annealing furnace.
    b. Bag filter for Zn coating and Mg converter area.
    c. Wet scrubbers in paint and bitumen coating area.
    d. Bag Filter in Cement lining area.
    e. PTFE dipped bags shall be used in the plant.
    f. PM emissions from BF in Zinc coating area shall be 5 mg/Nm$^3$.
    g. ETP with recycling facility shall be included. All scrubber effluent shall be treated in ETP.

vi. Parking area for trucks/dumpers shall be provided within the plant. No truck/dumper shall be parked outside the plant premises.

vii. Project proponent shall conserve wetlands located in the vicinity of the project site (Amona – 0.3km in Northern direction and Navelim – 0.6 km in Northern direction) by developing green belt development all along the boundary of the wet land.

viii. Solid waste utilization
    - Maximum 90 days of slag storage area shall be permitted inside the plant.
    - PP shall recycle/reuse 100 % solid waste generated in the plant.

- Used refractories shall be recycled as far as possible.

ix. Sinter Plant shall be equipped with sinter cooler waste recovery system to generate process steam or power.

x. BF shall be equipped with Top Recovery Turbine, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.

xi. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC.

xii. Submerged Arc Furnace shall be of closed type with 4th hole extraction system.

xiii. Particulate matter emissions from stacks shall be less than 30 mg/Nm$^3$. Necessary retrofitting work shall be carried out in Air Pollution Control Devices (APCDs) of old plant to reduce PM emissions to less than 30 mg/Nm$^3$ within two years from the date of EC.

xiv. AAQ at Mosque and Siddhartha Caves archeological sites shall be monitored as per the CPCB norms. 02 manual ambient air quality monitoring stations within the plant shall be replaced with one CAAQMS in addition to the 03 CAAQMS presently installed. Manual monitoring as done presently shall be continued and Benzo Amino Pyrene (BaP) shall be monitored manually as per CPCB norms. Besides, one manual air quality monitoring station shall be established towards Amona and Navelim villages and ambient air quality monitored as per CPCB norms.

xv. Water requirement for the plant shall be met from Mandovi River and Valvonti river. Ground water abstraction is not permitted.

xvi. All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guidelines.

xvii. Water being used for cooling purposes in Waste Heat Recovery Power Plant (WHRPP) is the saline water drawn from Mandovi river (backwater). The blow down of cooling towers shall be discharged back to the saline backwaters as per the approval of the GSPCB. Project proponent shall periodically monitor the riverine water quality and report shall be submitted along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

xviii. Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process.

xix. Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation.

xx. The recommendations contained in the storm water management plan shall be strictly adhered with. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.

## B. General conditions

### I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

### II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).

x. Land-based APC system shall be installed to control coke pushing emissions.

xi. Monitor CO, HC and $O_2$ in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.

xii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.

xiii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

**III.Water quality monitoring and preservation**

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. The project proponent shall provide the ETP for coke oven to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time;

iv. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

vi. Tyre washing facilities shall be provided at the entrance of the plant gates.

vii. Water meters shall be provided at the inlet to all unit processes in the steel plants.

**IV.Noise monitoring and prevention**

i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

**V.Energy Conservation measures**

i. Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.

ii. Restrict Gas flaring to < 1%.

iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

iv. Provide LED lights in their offices and residential areas.

v. Ensure installation of regenerative/recuperative type burners on all reheating furnaces.

**VI.Waste management**

i. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.

ii. Kitchen waste shall be composted or converted to biogas for further use.

### VII.Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.

### VIII.Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.

iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

### IX.Environment Management

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

### X.Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, $SO_2$, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

**II. Reply to the Show Cause Notice dated 31/08/2021 submitted by PP**

The Committee recommended that SCN dated 31/08/2021 shall be revoked by the Ministry as the replies submitted by the proponent are found to be satisfactory except the non-compliances observed at para no. 50.1.26. In this regard, EAC has recommended to prescribe a specific condition in the EC to be accorded in order to ensure compliance in a time bound manner by the proponent. Further, it is also recommended that in case of failure of implementation by the proponent within the prescribed time frame, GSPCB shall initiate legal action against the proponent under the relevant provisions of the Environment (Protection) Act, 1986.

50.2 Expansion of existing plant from 62,400 TPA Billet production to 207,900 TPA Rolled production by modification of existing 2x8 Tons Induction Furnaces with 2x10 Tons, Installation of 2x15 Ton Induction Furnaces, Installation of 630 TPD Rolling Mill with

**ANNEXURE 14**

# IN THE SUPREME COURT OF INDIA

## CIVIL ORIGINAL JURISDICTION

**MISCELLANEOUS APPLICATION NO. 21 OF 2022**
**IN**
**MISCELLANEOUS APPLICATION NO. 665 OF 2021**
**IN**
**SUO MOTU WRIT PETITION (C) NO. 3 OF 2020**

**IN RE: COGNIZANCE FOR EXTENSION OF LIMITATION**

**WITH**

**MISCELLANEOUS APPLICATION NO.29 OF 2022**

**IN**
**MISCELLANEOUS APPLICATION NO. 665 OF 2021**

**IN**
**SUO MOTU WRIT PETITION (C) NO. 3 OF 2020**

## Order

**1.** In March, 2020, this Court took Suo Motu cognizance of the difficulties that might be faced by the litigants in filing petitions/ applications/ suits/ appeals/ all other quasi proceedings within the period of limitation prescribed under the general law of limitation or under any special laws (both Central and/or State) due to the outbreak of the COVID-19 pandemic.

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**2.** On 23.03.2020, this Court directed extension of the period of limitation in all proceedings before Courts/Tribunals including this Court w.e.f. 15.03.2020 till further orders. On 08.03.2021, the order dated 23.03.2020 was brought to an end, permitting the relaxation of period of limitation between 15.03.2020 and 14.03.2021. While doing so, it was made clear that the period of limitation would start from 15.03.2021.

**3.** Thereafter, due to a second surge in COVID-19 cases, the Supreme Court Advocates on Record Association (SCAORA) intervened in the Suo Motu proceedings by filing Miscellaneous Application No. 665 of 2021 seeking restoration of the order dated 23.03.2020 relaxing limitation. The aforesaid Miscellaneous Application No.665 of 2021 was disposed of by this Court *vide* Order dated 23.09.2021, wherein this Court extended the period of limitation in all proceedings before the Courts/Tribunals including this Court w.e.f 15.03.2020 till 02.10.2021.

**4.** The present Miscellaneous Application has been filed by the Supreme Court Advocates-on-Record Association in the context of the spread of the new variant of the COVID-19 and the drastic surge in the number of COVID cases across the country.

Considering the prevailing conditions, the applicants are seeking the following:

- i. allow the present application by restoring the order dated 23.03.2020 passed by this Hon'ble Court in Suo Motu Writ Petition (C) NO. 3 of 2020 ; and
- ii. allow the present application by restoring the order dated 27.04.2021 passed by this Hon'ble Court in M.A. no. 665 of 2021 in Suo Motu Writ Petition (C) NO. 3 of 2020; and
- iii. pass such other order or orders as this Hon'ble Court may deem fit and proper.

**5.** Taking into consideration the arguments advanced by learned counsel and the impact of the surge of the virus on public health and adversities faced by litigants in the prevailing conditions, we deem it appropriate to dispose of the M.A. No. 21 of 2022 with the following directions:

- I. The order dated 23.03.2020 is restored and in continuation of the subsequent orders dated 08.03.2021, 27.04.2021 and 23.09.2021, it is directed that the period from 15.03.2020 till 28.02.2022 shall stand excluded for the purposes of limitation as may be prescribed under any general or special laws in respect of all judicial or quasi-judicial proceedings.

II. Consequently, the balance period of limitation remaining as on 03.10.2021, if any, shall become available with effect from 01.03.2022.

III. In cases where the limitation would have expired during the period between 15.03.2020 till 28.02.2022, notwithstanding the actual balance period of limitation remaining, all persons shall have a limitation period of 90 days from 01.03.2022. In the event the actual balance period of limitation remaining, with effect from 01.03.2022 is greater than 90 days, that longer period shall apply.

IV. It is further clarified that the period from 15.03.2020 till 28.02.2022 shall also stand excluded in computing the periods prescribed under Sections 23 (4) and 29A of the Arbitration and Conciliation Act, 1996, Section 12A of the Commercial Courts Act, 2015 and provisos (b) and (c) of Section 138 of the Negotiable Instruments Act, 1881 and any other laws, which prescribe period(s) of limitation for instituting proceedings, outer limits (within which the court or tribunal can condone delay) and termination of proceedings.

**6.** As prayed for by learned Senior Counsel, M.A. No. 29 of 2022 is dismissed as withdrawn.

..............................CJI.
(N.V. RAMANA)

.................................J.
(L. NAGESWARA RAO)

.................................J.
(SURYA KANT)

New Delhi
**January 10, 2022**

# BEFORE THE NATIONAL GREEN TRIBUNAL
# WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

## APPEAL NO.18 OF 2022 (WZ)

1. **Pravir Prabhakar Fadte,**
   Age 46 years, son of Prabhakar Fadte,
   H. No. 180/2, Betalwada, Amona,
   P. O. Marcela, Goa- 403107,
   Contact No. 8830926934
   Email Id: fadtepravir108@gamil.com

2. **Sameer Babla Bhagat,**
   Aged 41 years, resident of 416,
   Bhagat Wada, Amona,
   Marcela, Goa-403107,
   Contact No. 9130981345

3. **Devanand Sagun Sinari,**
   Aged 42 years, Resident of H.No.156,
   Pimpalwada, Amona, P.O. Marcella,
   Bicholim, Goa – 403107
   Contact No. 9767332578
   Email id – devanandsinari@gmail.com

4. **Narayan Raghunath Sawant**,
   Age : 45 years, Businessman,
   Resident of H.No.343, Khar Wada,
   Amona, Marcela, Goa-403107,
   Contact No. 9764269761.

5. **The Goa Foundation,**
   Through its Secretary, Dr. Claude Alvares,
   Age 74 years, having Regde. Office at
   Room No.7, Above Mapusa Clinic,
   Mapusa, Goa-403507
   Contact No.-9674390308 **.Appellants**
   Email id : goafoundation@gmail.com

**Versus**

1. **The Ministry of Environment, Forests & Climate Change,**
   Through its Secretary, Indira Paryavarna Bhavan,
   Jor Bagh Rd, New Delhi-110003,
   Email Id: mefcc@gov.in,
   Contact No. 011-24645586

2. **The Goa State Pollution Control Board,**
   Through its Member Secretary,
   Near Pilerne Industrial Estate
   Opposite Saligao Seminary,
   Saligao, Bardez, Goa-403511,
   Email Id: mail.gspcb@gov.in

Contact No. 0832-2407700.

3. **Vedanta Limited - Value Addition Business,**
Pig Iron Division, Amona, Bicholim Taluka,
PO M arcela, Goa-403107,
Email Id: ironore.communications@vedanta.co.in
Contact No. 0832-2385404/0832-6412160

4. **The State of Goa**,
Through its Chief Secretary,
Having office at Secretariat,
Porvorim, Goa – 403 521,
Email id : cs-goa@nic.in
Contact No. – 0832-2419402 **....Respondents**

**CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER**
**HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Appellants : Ms. Norma Alvares, Advocate

Respondents : Mr. Rahul Garg, Advocate for R-1
Mr. A.V. Pavithran, Advocate for R-2
Mr. Dhruv Mehta, Senior Advocate along with
Mr. Ninad Laud, Mr. Abhijit Gosavi and
Mr. S.S. Swaminathan, Advocates for R-3

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**Reserved on : 11.04.2023**

**Pronounced on : 04.05.2023**

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## JUDGMENT

1. This appeal has been filed seeking quashing of Environment Clearance (EC) dated 24.01.2022 issued in favour of respondent No. 3 – Vedanta Limited – Value Addition Business for upgradation of Blast Furnaces (BF) to enhance the production capacity of BF-1 and BF-2 (Amona) from 2,92,000 TPA to 3,50,000 TPA, BF3 (Navelim) from 5,40,000 TPA to 6,50,000 TPA, for setting up of additional Oxygen Plant. Apart from it, it is also prayed that respondent No.3 be injuncted from releasing graphite particles into the atmosphere or in the alternative, it be directed to replace coke with decarbonising technology or be ordered to

shut down the unit until installation of pollution control machinery as laid down in EIA report.

2. The facts of this appeal, in brief, are that by the impugned EC, respondent No.3 has been granted permission to expand the capacity of BF-1 and 2 plants at Amona, Goa and BF-3 plant at Navelim village, Goa. These plants have been operating under first EC granted in 2009, though the plants originally commenced production from 1992. The 2009 EC was further modified by an order of year 2017 pursuant to an order of National Green Tribunal. Almost from the day one, when the industry began its operation, enormous petitions/public interest litigations (PILs) were filed due to health hazards to the residents of the locality as a result of which in a PIL, NEERI was appointed to look into the issue of pollution and to make recommendations in 2008, but those recommendations could not be implemented effectively. Respondent No.3 nonchalantly applied for an EC to expand its plant, which has been granted despite the situation on the ground. The earlier EC granted in 2009 was challenged before the Hon'ble High Court. The two earlier Blast Furnaces were erected in Amona village without having any prior EC as they were erected while 1994 EIA notification was in force. The PIL was finally disposed of in 2013. The petitioner thereafter moved an appeal before the Hon'ble Supreme Court, which, in 2016, directed the NGT to take up the matter. After hearing, the NGT passed an order on 04.12.2017 recording that the EC spoke of an expansion but the same was not for expansion rather they were two separate industrial units in separate locations and requested MoEF to hear the petitioner and to take appropriate decisions thereafter. The MoEF refused to recall the EC or hold a public meeting.

3. In the meanwhile, the MoEF&CC deputed a Committee from its regional office at Bengaluru to visit the plant and file a report, which visited the plant site on 31.08.2018 without notice to the petitioners. The

report of the MoEF Committee, however, sought to undo the NGT's finding that a newly added plant (blast furnace in Navelim village) could not be considered as "expansion" of the existing plant on a specious and incorrect grounds. It made fresh recommendations. However, these were not added in the 2009 EC, which was reissued as modified EC in the year 2020. Simply adding more and more conditions has only ended up making the EC bulkier without any promise of dealing with the basic environmental issues arisen due to the industrial operations of these plants. The Goa State Pollution Control Board – respondent No. 2 merely kept issuing show-cause notices relating to emissions in excess of existing norms, which is nothing more than paperwork. In the year 2019, respondent No.3 filed yet another proposal for another EC for further expansion in the capacity and for diversified production including manufacture of ductile pipes and oxygen plant (EC impugned herein). The TOR for the new proposal was issued vide letter dated 06.03.2019. On this occasion, the EAC, while considering the application for EC, also perused the report of Goa SPCB dated 02.07.2021 relating to implementation of the conditions laid down in the 2009 EC. It, therefore, took a decision to reject and return the expansion proposal. Pursuant to the decision of EAC, the MoEF&CC issued show-cause notice dated 31.08.2021 to respondent No.3 to show reason as to why the 2009 EC should not be cancelled. The SCN listed the major issues which have been enumerated in application in sub-paragraphs (a) to (f) of paragraph no.16. When these developments were underway, the State Administration attempted to organize the mandatory public hearing related to the impugned EC in the year 2019. An intervention was also made by the Hon'ble High Court of Bombay through a PIL, directing the mode in which the public hearing was to be conducted. During public hearing, the expansion project was resisted on the ground of social health and environment concerns. The main demand which was made during the public hearing was with respect to the fact as to how the MoEF could consider an application for EC expansion when the existing plants were non-compliant concerning the environmental standards and norms. The appellant also provided its set of objections which related to violation of existing air pollution related standards by the plant but they did not find consideration in the EAC proposal. It is further mentioned that baseline air quality data from the EIA report shows that respondent No.3 is causing air pollution of impermissible limits. The decisions of the ambient air quality locations and their readings have been given in tabular form in detail in the memo of appeal in paragraph no.20, on the basis of which the authorities ought to have concluded that the ambient air quality surrounding the plant was impermissibly unhealthy and in view of that, the proposal for expansion ought to have been denied until measures for abating the emissions were taken. The facts provided in EIA report would show that the air quality impact assessment failed to provide information as to how emissions would impact annual and 24-hour levels of PM2.5 and annual average level of PM10. The level of PM10 and PM2.5 surrounding the plant are far from European standards. Therefore, respondent No. 3 should explain as to why by using better technology, the said pollution could not have been brought down.

4. With respect to graphite pollution, it is submitted that the pollution, which is happening in the area surrounding plant, is containing graphite particles and respondent No.3 has failed to resolve this issue and in light of that, the expansion proposal ought to have been outrightly rejected. The EIA has failed to provide the quantitative health impact assessment associated with expected increased emissions of pollutants. The EIA has failed to assess non-carbon based alternatives

for iron production. In order to avoid a societal collapse associated with excessive global warming, climate experts are now advising that responding to the climate emergency requires net zero emissions of greenhouse gasses by 2030 and not by 2050. Respondent No.3 has placed reliance on coal-derived coke for its iron production which contributes high risk of societal collapse associated with excessive global warming. In a peer-review of scientific literature, it is demonstrated that hydrogen generated by electrolysis from renewable-electrical energy generation, green hydrogen can be used to replace coal for reduction of pollution. Hence, in this background, the above prayers have been made.

5. The matter was considered by us on 30.05.2022 and admitting the appeal, a direction was issued to send notices to the respondents.

6. The appellants have filed service affidavit as per which the service is sufficient on all the respondents.

7. Stand of respondent No.3 – Project Proponent is that the appellants have failed to disclose that the same subject matter is under litigation at its initiation before the Hon'ble High Court and the fact that the ambient air quality (AAQ) is within the prescribed parameters, has been confirmed by the Export Appraisal Committee (EAC) but the appellants have presented lopsided view adopting crafty drafting skill. The appellants have tried to guage the violations on the European standards while impliedly conceding that the statutory standards in India have been met by the answering respondent. Even the objection related to the technology adopted by the answering respondent is not tenable. The EAC while recommending the grant of EC has observed as below:

> *“"50.1.26 The committee noted the following:*
>
> *i. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components.* ***The Committee has also found that the baseline***

> ***data and incremental GLC due to the proposed project within NAAO standards.***
>
> *ii.The EAC also deliberated on the certified compliance report of* ***RO,*** *written submissions, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.*
>
> *iii. It has been reported by the PP that the existing capacity of the Jetty (4 grabs) is 7 MPA of material handling (loading as well as unloading) while the requirement of material to be handled for the entire complex after the proposed expansion will be maximum of 2.5 MTPA only. The jetty is in operation prior to CRZ Notification 1991. There is no expansion of the jetty capacities since the time of establishment. The existing jetty is capable of handling the additional load of the proposed expansion. In view of this, PP claimed that CRZ clearance for the jetty is not applicable.*
>
> *iv. Consolidated EC ma be issued for the instant proposal as the PP has amalgamated the units operating under the consent from GSPCB with the instant expansion proposal under consideration.... (Emphasis supplied)"*

8. The EAC after having considered respondent No.3's submissions on the deficiencies, issued specific directions to the answering respondent to make compliance of the specific deadlines with respect to specific directions, which are quoted below:

> *"50.1.27.....*
> ***A. Specific Conditions***
> *.....*
>
> *ii. Green Belt shall be developed in 54 hectares of land (33.5% of total land) with tree density of 2500 trees per ha by 31/12/2022 all along the periphery of the project site. This shall include, gap filling which shall be done in existing tree belt developed area wherever tree density is less than 2500 trees per ha. This shall include green belt development within the site with a width of 25 meters towards the Amona village and Navelim village located a distance of 0.32 km and 0.05 km from the project site respectively.*
>
> *iii. The recommendations of the approved Site-Specific Conservation Plan/ Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.*
>
> *iv. The project proponent shall comply with the following points* ***by on (or) before 31/05/2022*** *as committed below by the proponent, failing which GSPCB shall initiate legal action against the proponent under the relevant provision of the Environment (Protection) Act, 1986. Further, compliance status in this regard shall be submitted*

> *to the concerned Regional Office of the MoEF&CC along with the six-monthly compliance report.*
>
> a. *6.38 km internal plant road shall be black topped or concreted* ***by April, 2022****.*
> b. *All the stored slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in place by* ***31st May, 2022****.*
> c. *There are 18 sites of archaeological importance in the study area. Requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or)* ***before 31/05/2022****.*
> d. *Wind Shield for control of graphite particle emissions shall be provided* ***by March 2022****." (Emphasis supplied)"*

9. In paragraph 50.1.26, the EAC has specifically recorded that the expansion of the unit would not result in a breach of the NAAQS and specifically directed the installation of wind shields to be installed, which had already been installed by the answering respondent.

10. The figures which have been used by the appellant to conjure the average annual AAQ, alone are not sufficient to compute the same because the very standards sought to be relied by the appellants prescribe a minimum of 104 measurements to be taken over a course of a year i.e. 52 weeks. The relevant portion of the NAAQS is as follows:

> *"Annual Arithmetic mean of* ***minimum 104 measurements*** *in a year at a particular site taken twice a week 24 hourly at uniform intervals." (Emphasis supplied)*

11. It is further submitted that the appellants' submission with regard to air pollution is based on 26 samples instead of 104 samples. If the appellant had computed AAQ based on the requisite number of samples i.e. 104 samples, they would have found that the answering respondent's unit was operating well within AAQ for PM10. The EAC has also observed in its recommendation that the baseline data and incremental Ground Level Concentration (GLC) due to the proposed project were within NAAQ standards.

12. The appellants have already raised the matter with respect to graphite pollution before the Hon'ble High Court of Bombay at Goa in

Writ Petition No.243/2008, wherein, by order dated 23.06.2008, the National Environmental Engineering Research Institute (NEERI) was directed to submit its report on all the aspects of the matter, including the hazards, if any, the graphite particles, which are released in the air, pose to the health of the human beings and the life in general in the area. The said report was prepared in December, 2008 and submitted also. It was concluded that there was no correlation between the graphite emissions and respiratory or other ailments in the local populace. Not only this, it also emphasised that there was no need for a rigorous study in the answering respondent's case and the following is the conclusion which has been drawn by the NEERI:

> *"5.0 Conclusions*
> *… …*
> *5.3 Ambient Air Quality*
> *The results of AAQ monitoring conducted at eight villages within 10 km radial distance from the plant reveal that the levels of gaseous pollutants SO2 & NO2 were well within the GSPCB/CPCB standards of 80 pg/m3 for residential zone (Annexure-11)*
>
> *All observations on RPM and SPM in four out of eight villages namely, Amona (1 km in NW), Navelim (1 km in ESE), Betqui-khandola (4 km in S) and Sawai-verem (8 km in SSE) direction of pig iron plant were well within respective GSPCB/CPCB standards of 100 ug/m3 & 200 ug/m3 for residential zone.*
>
> *In respect of the villages Cuudnem (5 km in NE) and Sanguclim10 km in NE) where the impact of plant emissions is not likely to be observed, being located in the upwind direction of the plant. 40% and 20% of respective RPM observations exceeded the GSPCB/CPCB standards of 100 ug/m3 for residential zone and 98th percentile respective RPM value was 116 ug/m3 and 121 ug/m3 while in Cudnem 20% of the SPM observations exceed the GSPCB/CPCB standards.*
>
> *The villages Barna (6 km in SSW) and Ella (10 km WSW) are both located in downwind direction of the plant and 98th percentile RPM value for both villages was 130 ug/m3. 60% and 40% of total RPM observations in the villages Barna and Ellaa respectively exceed GSPCB/CPCB standards of 100 ug/m3. 40% of the SPM observations exceeded the GSPCB/CPCB standards of 200 ug/m3 while 98th percentile SPM values at the respective villages were 231 ug/m3 and 238 ug/m3. High values of RPM and SPM in villages Barna and Ella, situated around 6 km and 10 km respectively in down wind direction of the plant, may be attributed to close proximity of sampling locations with national highway (NH) 4A as well as local anthropogenic activities.*

> *5.4 Impact of Particulate Emissions from Pig Iron Plant on Human Health :*
> *Total 89 persons were examined. 51 persons working in actual production plants, whereas 38 persons from nearby villages Amona and Navelim, were examined. There was no specific increased prevalence of respiratory illness skin/ocular allergies evidence of heart disease in people involved in production plant or in nearby villages. The acute/chronic illness present in study population was similar to such illnesses in general population and cannot be correlated with occupational conditions prevailing at the time of conducting the study. The examination findings did not also reveal any specific disease pattern. The chest X-ray and spirometry of the study population also did not revel any significant disease pattern. However, the blood tests showed lymphocytosis in 43/89 adult persons, which was abnormal (>45%). Overall health status of the study population was fairly good.*
>
> *However, this is a onetime health impact study and to carry out a rigorous assessment, such study should be carried out with statistically designed experiments which in the instant case may not be required.*
>
> *Thus, this study does not point out any obvious disease related to graphite exposure."* [Emphasis supplied]

13. The answering respondent has installed additional equipments, based on the recommendations of NEERI to further reduce fugitive graphite emissions, which fact has also been brought to the notice of the Hon'ble High Court.

14. The appellants have not placed on record the steps which have also been taken by the answering respondent pursuant to the directions issued by the EAC, MoEF&CC in EC as well as those by the GSPCB in its audit report and the directions of the Hon'ble High Court in Writ Petition No.881/2017 based on NEERI Report, which are given below in tabular form:

| | **Compliance Conditions requiring compliance** | **Status of compliance** |
|---|---|---|
| EAC in its Minutes dated 12-13.08.2021 | Compliance with conditions for treatment of storm water discharge, fugitive emission control, green belt development, black topping of 6.38 Km Road, stag utilization, installation of CAAQMS, secondary emission control during | Company has adequate storm water management system. Storm water is channelized through drains into series of settling ponds. These drains and settling ponds are desilted every year. Check-dams and settling ponds are |

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|  | charging/material tapping/slag tapping | provided to arrest the silt. The storm water overflow from the settling ponds is monitored to ensure TSS within limits and records maintained.<br>Dust extraction system like bag house are installed to all the blast furnaces, coke ovens and ESP is also installed to sinter plant tail end and head end to arrest the particulates and ensure emissions within the limit. Rain guns and fog cannons are also installed in blast furnace as well as in raw material/finished product yards to control fugitive dust. Water sprinkling through tankers are carried out on internal transportation routes. Concrete/Asphalted Roads are provided within the premises and road sweeping machine are deployed for cleaning the internal roads. Windshields are installed at the boundary of the plant along the periphery of Navelim and Amona village.<br>Greenbelt has been developed and maintained in 54 ha i.e. 33.5% of area within the plant premises. Plantation is being carried out every year in open available areas within the plant premises to further increase the density of plantation. Apart from this plantation is also carried out in the community around the plant premises.<br>Out of 13 Km of internal roads 6.62 km of road was already black topped. Remaining 6.38 km of internal road black topping has been completed in the month of April 2022 as per EAC recommendations. |

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| | | All the old stocks of slag has been disposed to cement industry as per EAC recommendation and regular disposal is ensured as and when generated.<br>New CAAQMS is installed in the plant premises. Same has been recorded in EAC MOM dated 06/01/2022.<br>Bag house is installed to all the blast furnaces to control secondary emissions from blast furnace. Also as committed Company is in the process of replacing old Bag house of Blast Furnace 1 with new one by Dec 2022 and work is in progress accordingly. |
| | Discharge of storm water directly from premises without adequate settling. | Company has adequate storm water management system. Storm water is channelized through drains into series of settling ponds. These drains and settling ponds are desilted every year. Settling ponds and check-dams are provided to the drains. Discharge water is regularly monitored and records maintained. |
| | Presence of shiny particles on monitoring equipment. | All the blast Furnaces are fitted with Bag house system and new bag house has been proposed for Blast Furnace 1 by Dec 2022. Windshield is installed at the boundary of the plant. Fog cannons and rain guns are provided. Tall and thick growing trees are planted along the periphery of the plant premises wherever feasible. |
| | Compliance with requirement of zero liquid discharge. | Complied. Water used for cooling purposes in Waste Heat Recovery Power Plant (WHRPP) is the saline water drawn from Mandovi river |

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| | | (brackish water). The blow down of cooling towers therefore, is same saline water drawn from Mandovi river which is discharged back to Mandovi river after temperature and pH correction as per CTO condition. The same has been represented to EAC as part of EC presentation and EAC has accordingly acknowledged and incorporated as part of their recommendation and EC condition. Other than WHRPP cooling tower blow down and storm water discharge during monsoon (after ensuring TSS within limit), Zero liquid discharge is being maintained and ensured from the plant premises. |
| | Approval/Clearance from Archaeological Survey of India | Approval from Archaeology Department of Archaeology received on 15th July 2022 vide letter number No.8/387/2022/DAA-891 dated 14/07/2022 and the same has been communicated to MoEF vide our communication dated 16.07.2022 |
| | Preparation of Wildlife Conservation Plan | Wild Life Conservation plan was prepared and got approved by the Chief Wild LIFE Warden vide their letter number 1-576(PART)WL&ET(N)/2021-2022/554 dated 28/05/2021. |
| | Compliance with requisite Green Belt Density | Greenbelt has been developed and maintained in 54 ha i.e. 33.5% of area within the plant premises. Every year plantation is carried out in open available areas to further increase the density of plantation. |
| MoEF&CC in the EC | 6.38 km internal plant road shall be black topped or concreted by April 2022 | Complied. As stipulated in the EC, black topping of 6.38 km of internal roads is completed in the month of April 2022 and submitted |

| | | |
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| | | update to GSPCB accordingly. |
| | All the stored slag shall be disposed of by May, 2022 and the covered storage shed for slag shall be put in place by 31 May, 2022. | All the old stock of slag has been disposed to cement industries. Presently there is no stacking of slag at the unit except for day to day generation. We have acquired a company manufacturing slag cement for better and continuous utilization of slag wherein a covered shed to store the slag is provided. |
| | There are 18 sites of archaeological importance in the study area. Requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022. | Complied. Approval of Department of Archaeology, Govt. of Goa received on 15/07/2022 vide letter number 8/387/2022/DDA-891 dated 14/07/2022 and the same has been communicated to MoEF vide our communication dated 16.07.2022 |
| | Windshield for control of graphite particle emissions shall be provided by March 2022 | Installation of Additional new windshield of 260 m length at the plant boundary towards Amona village is completed in the month of March 2022. |
| GSPCB in its Audit Report | Improve the quality of treated effluent for recycle as well as obtain additional solids for recycle with scientific operation of the Thickener process, at Pig Iron division & waste water treatment system. | Treatability study completed at the thickener of Blast Furnace 1 & 2 in consultation with Experts. The new flocculent introduced as per recommendation of experts will help to recover additional solids at the thickener itself and further improve the performance of the system. |
| | Upgrade Air Pollution Control Devices of Pig Iron manufacturing & Metcoke divisions which are inefficient. | As proposed, a new bag house will be installed for Blast Furnace 1 by Dec 2022. The process for the same is already initiated and ongoing. |
| | Upgrade Material of Construction of Filter Bags to PTFE Teflon Dust Collection Bags in Bag Filters | All the bag filters are upgraded to PTFE filter bags. |
| | Regularly clear and trim vegetation growth for proper collection of ambient air | The vegetation near the CAAQMS is regularly trimmed and maintained to |

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| | quality data. | facilitate proper collection of ambient air quality data. |
| | Systematic and scientific measurements to establish factual performance of Air Pollution Control Devices, Ensure correct isokinetic sampling of particulate matter at Inlet and Outlet of APCI by collecting samples at defined distances and at defined angle in the duct based on Duct diameter or Duet dimension. | It is ensured that systematic and scientific measurements of Air pollution control devices are carried out to keep a check on the efficiency of the devices. These studies are carried out through MOEF&CC approved laboratory. |
| | Ensure all time operation of the Electronic Display Board at the gate integrating correct values w.r.t. Consent to Operate | All the electronic display boards at the gates are in operation and maintained regularly. |
| | Ensure that all storm water drains and Settling Ponds are properly constructed or provided with internal waterproof plaster. | All the storm water drains and settling ponds are properly constructed. The settling ponds and drains are desilted every year before the onset of monsoon. |
| | Evaluate the situation correctly at work places at BF1 and BF2 and provide additional hoods similar to BF3 to avoid escape of fugitive emissions especially graphite particles from work place. | Blast Furnace 2 is already installed and upgraded with new bag house system in the year 2020. Similarly upgradation replacement of bag house at BF1 is planned to be completed by December 2022. Efficiency testing of all such bag houses are being carried out through MoEF recognized laboratory. |
| | Check all ambient air monitoring reports received from 3rd party and ensure that the Wind Direction Wind Speed and Relative Humidity on the sampling dates of the month are correctly reported. | All the ambient air monitoring reports are thoroughly checked and studied by inhouse environment team. All the necessary data like wind speed, wind direction etc is provided along with the ambient air quality readings. The air monitoring reports are regularly submitted to authorities. |
| | Ensure 33% of dedicated green belt area within the premises with new additional plantation every year to increase the density of green | Ensured. 33.5% (54 Ha) of total land is already occupied by green belt. Every year during monsoon plantation is carried out |

| | | |
|---|---|---|
| | belt. | further increase the density of the plantation. |
| High Court based on the NEERI Report | Installation of wind shields upto 9m.<br>Installation of spray nozzles.<br>No overloading of trucks, spraying of water and adequate covering of trucks with HDPE/tarpaulin sheets.<br>Suppression of re-suspended dust particles.<br>Installation of closed conveyor belt in the absence of closed storage sheds.<br>Construction of additional storage sheds for iron ore.<br>Handling of dusty material to be carried out in enclosed areas under negative pressure.<br>Extraction of fumes/particles generated through movable collection hoods connected to particulate control devices.<br>Installation of improvised efficient mobile fugitive dust collection hood connected to particulate control devices | Complied. Confirmed by affidavit dated 12.02.2019 of the GSPCB in WP No.881/2017 |

15. In another affidavit of respondent dated 04.08.2022, the same averments have been reiterated which have already been stated by us above in earlier affidavit.

16. We find on record an affidavit filed by respondent No.1 – MoEF&CC, which contains nothing but procedure for grant of EC and minutes of the meeting of EAC.

17. The stand of GSPCB is also there in their affidavit 15.09.2022. The relevant paragraphs in which we find some substance related to this matter are being quoted hereinbelow:

> *"10. After due deliberation with NEETI and considering the urgency in the matter this respondent decided to carry out some of the measures directed by the Hon'ble High Court by itself and implemented certain measures. This Respondent has conducted monitoring of the stack attached to the bag house on 24/02/2020 and also initiated the Ambient Air Quality Monitoring on 24/02/2020 at two of the locations in the vicinity of the plan and*

*also proposed to conduct Ambient Air Monitoring at 4 more locations thrice a week. This Respondent also carried dust fall measurement at different locations to measure the graphite particles.*

*13. As far as the issue of allegation of graphite pollution, the said issue was otherwise subject matter of writ petition No.243/2008 filed by Amona Bachao Andolan before the Hon'ble High Court of Bombay at Goa. The High Court vide order dated 23/06/2008 directed the NEERI to conduct a study and submit its reports on all the aspects of the matters including the hazards, if any, the graphite particles which are released in the air pose to the health of the human being and life in general in area. The NEERI after conducting the study submitted the report before the Hon'ble High Court. The NEERI also conducted health study and the observations of the NEERI in the report with respect to graphite particle deposition is as follows:*

*(i) Correlation of exposure limits and disease no significant impact of graphite dust could be established. Thus, there was no correlation between any specific disease process and the exposure limits.*

*(ii) 5.4 Impact of Particular Emission from Pig Iron Plant on Human Health. Thus, this study does not point out any obvious disease related to graphite exposure.*

*14. The unit of the respondent No.3 is categorised as Red Category unit, as part of the policy and general practice followed by this Respondent, this Respondent decided to conduct Environmental audit of the Pig Iron Plant located at Amona and Navelim by M/s Vedanta Limited. For the purpose of verification of environmental compliance by the Respondent No.3, Audit Team consisting of this respondent's officials as well as External Environmental Experts conducted an environmental Audit of the Pig Iron Plant located at Amona and Navelim by M/s Vedanta Limited on 30/8/2021 and 31/8/2021 and prepared a complete audit report. The audit report is part of the records produced by the Respondent No.3 before this Honourable Tribunal and this Respondent craves leave to rely upon the said audit report at the time of hearing.*

*The Environmental Audit recommends as follows:*

*i. Obtain from GSPCB one single Consent to Operate amalgamating all the different Consents to Operate held presently.*

*ii. Ensure uninterrupted operation and functioning of CAAQMS and CEMS.*

*iii. Improve the quality of treated effluent for recycle as well as obtain additional solids for recycle with scientific operation of the Thickener process.*

*iv.* *Upgrade Air Pollution Control Devices which are inefficient.*

*v.* *Upgrade Material of Construction of Filter Bags to PTFE Teflon Dust Collection Bags in Bag Filters.*

*vi.* *Regularly clear and trim vegetation growth for proper collection of ambient air quality data.*

*vii.* *Carry out systematic and scientific measurements to establish factual performance of Air Pollution Control devices. Ensure correct sampling of particulate matter at Inlet and Outlet of APCD by collecting samples at defined distances and at defined angle in the duct based on Duct diameter or Duct dimension.*

*viii.* *Ensure all time operation of the Electronic Display Board at the gate integrating correct values w.r.t. Consent to Operate.*

*ix.* *Ensure that all storm water drains and Settling Ponds are properly constructed or provided with internal waterproof plaster.*

*x.* *Evaluate the situation correctly at work places at BF1 and BF2 and provide additional hoods similar to BF3 to avoid escape of fugitive emissions especially graphite particles from work place.*

*xi.* *Check all ambient air monitoring reports received from 3rd party and ensure that the Wind Direction, Wind Speed and Relative Humidity on the sampling dates of the month are correctly reported.*

*xii.* *Ensure 33% of dedicated green belt area within the premises with new additional plantation every year to increase the density of green belt.*

*xiii.* *At this stage Source Apportionment study recommended by NEERI should be differed but it is very much essential to first study Dust fall and particulate size Distribution in surrounding area of Vedanta Plant to establish PM2.5. PM10 and Graphite Particle concentration by simple method enclosed.*

*The Dust fall and Particle Size Distribution will have to be monitored again one M/s Vedanta Limited implement upgraded APC Systems at BF and BF2.*

*Based on the results, if there is no reduction in Dust fall of P.M.2.05 and PM10 or Graphite Particle concentrations, GSPCB may consider Source Apportionment Study recommended by NEERI.*

*15. The Board on considering the Environmental Audit Report has issued statutory directions dated 14/1/2022 under section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 to M/s Vedanta Limited, the Respondent unit.*

*Vide the said direction the Respondent unit was directed to comply with the following:*

*a) Improve the quality of treated effluent for recycle as well as obtain additional solids for recycle with scientific operation of the Thickener process at Pig Iron division waste water treatment system.*

*b) Upgrade Air Pollution Control Devices of Pig Iron manufacturing & Metcoke divisions which are inefficient.*

*c) Upgrade Material of Construction of Filter Bags to PTFE Teflon Dust Collection Bags in Bag Filters.*

*d) Regularly clear & amp; trim vegetation growth for proper collection of ambient air quality data.*

*e) Carry out systematic and scientific measurements to establish factual performance of Air Pollution Control Devices. Ensure correct isokinetic sampling of particulate matter at Inlet and Outlet of APCD by collecting samples at defined distances and at defined angle in the duty based on Duct diameter or duet dimension.*

*f) Ensure all time operation of the Electronic Display Board at the gate integrating correct values w.r.t. Consent to Operate.*

*g) Ensure that all storm water drains and Settling Ponds are properly constructed or provided with internal waterproof plaster.*

*h) Evaluate the situation correctly at work places at BF1 and BF2 and provide additional hoods similar to BF3 to avoid escape at fugitive emissions especially graphite particles from work place.*

*i) Check all ambient air monitoring reports received from 3rd party and ensure that the Wind Direction, Wind*

*Speed and Relative Humidity on the sampling dates of the month are correctly reported.*

j) *Ensure 33% of dedicated green belt area within the premises with new additional plantation every year to increase the density of green belt."*

18. Pursuant to above, personal hearing was conducted by the GSPCB and subsequent to that, following report is submitted before us on the date of arguments, which shows that all the obligations have been complied with by respondent No.3 – Project Proponent:

| **Sr. No.** | **Audit personal hearing recommendations** | **Verification on (19/01/2023)** | **Verification on (05/04/2023)** |
|---|---|---|---|
| 1 | Treatability study to select proper polyelectrolyte and standardize the dosing to increase the efficiency of thickener to be completed by May 2022.<br>Impact Assessment on the ecosystem of Mandovi river due to cooling tower bleed water discharge shall be conducted.<br>Monitoring shall be conducted 100 m upstream and 100 m downstream from the point of discharge during high tide and nip tide once every month. | Complied | Complied |
| 2 | The APCD installed with the existing units shall be upgraded to meet the Particulate Matter Emission Norms of 30 mg/Nm3.<br>The Particulate Matter Emission Norms from Sinter Plant shall not exceed 50 mg/Nm3 | Design is completed (new bag house BF-1) installation is under progress.<br>Letter issued to maintain PM from Sinter as per consent (100 mg/Nm3) | BF-1 Bag house installed and commissioned |
| 3 | Technical assessment of CEMS installed shall be conducted with regard to their suitability to monitor | Technical Assessment has been completed. Installation is | Installation completed and data is communicated wit |

| | | | |
|---|---|---|---|
| | low level PM emissions. The study shall be completed before May 31st 2022 and based on the outcome of the study replacement of CEMS found not suitable, will be undertaken and completed by December 31st 2022. | under progress. | the GSPCB. |
| 4 | Isokinetic sampling for APCD should be completed in 2 months i.e. before April 30 2022. Assessment of APCDs once a year. | Performance evaluation report of APCDs submitted. | Performance evaluation report of APCDs submitted |
| 5 | Suitable manpower shall be in place to validate the data and ensure that uninterrupted data is displayed on the electronic display board at 3 gates. | Complied | Complied |
| 6 | Area of all stock piles shall be demarcated and plan submitted to the Board. Garland drains with catch pits shall be provided around stock piles to ensure no carryover of the material. Storm water Final Settling Pond provided before discharge of storm water shall be lined. | Complied | Complied |
| 7 | The upgradation/ modifications of secondary hood for control of fugitive emission from BF-1 shall be completed by December 31st 2022 ongoing. | Installation is under progress. To be completed (31/12/2022) | BF-1 Bag house installed and commissioned |
| 8 | Correctness of 3rd party analysis report shall be ensured and analysis of trend maintained | Complied | Complied |
| 9 | The Green Belt along the plant boundary near BF-1 & BF-2 towards Amona and Navelim villages shall be strengthened by September 2022. | Plantation has been carried out. As submitted Hard rock area – 1110 nos.<br>Other green belt – 450 nos<br>In community – 1850 nos. | Plantation has been carried out. As submitted Hard rock area – 1110 nos.<br>Other green belt – 450 nos.<br>In community – 1850 nos. |

| | | | |
|---|---|---|---|
| | Additional 260 m of Wind shield at BF1 and BF2 shall be completed by March 2022 | Complied | Complied |
| A | Graphite issue and complaints: One Manual Air quality monitoring station shall be established towards Amona and Navelim villages in consultation with Goa SPCB and ambient air quality monitored as per CPCB norms. | Complied | Complied |
| B | 6.38 Km internal plant road shall be asphalted/ black topped by April 2022 | Complied | Complied |
| C | AAQMS: 1 Additional Manual and 1 CAAQMS shall be installed in consultation with Goa SPCB | Manual AAQMS is already installed and is in operation and for continuous AAQMS site has been identified and installation is under process. | Complied |
| D | Monitoring at Mosque and Siddhartha Caves at Tar Surla:- Ambient Air Quality shall be monitored once a month preferably during November to April | Complied | Complied |
| E | All the legacy stored slag shall be disposed by May, 2022. Covered storage for slag storage shall be completed by May 31st 2022. The maximum onsite storage of slag shall not exceed more than the 3 months of slag generation. | Complied | Complied |
| F | For Ambient Air Monitoring Station : Monitoring of Benzo(a) pyrene shall be initiated at all the monitoring locations | Complied | Complied |

19. The appellants have filed rejoinder dated 21.09.2022 in which the same facts have been reiterated which have already been dealt with by us

above. The sur-rejoinder dated 08.10.2022 has been filed, which is also containing the same facts which we have already dealt with.

20. From the side of respondent No. 3 – Project Proponent, sur-rejoinder has been filed on 16.11.2022, which also contains the repetition of facts with which we have already dealt with. In addition to that, we find that with respect to the allegations of the appellant that the Agriculture Department had decided and directed respondent No.3 – Project Proponent to pay compensation to the affected individuals by an order, it is submitted that the said document dated 15.06.2022 is merely a report prepared by the said Department which has thereafter been forwarded to the Dy. Collector for necessary action. The said report was prepared at the instance of the Dy. Collector in view of an undertaking given by the State to the Hon'ble High Court, which is recorded in the order dated 28.08.2019 passed by the Hon'ble High Court of Bombay at Goa in Writ Petition No. 881/2017 that it would consider certain applications made by the farmers in the village of Amona and a subsequent order dated 14.03.2022 passed by the Hon'ble High Court in Contempt Petition No.2619/2021 filed by the appellants, directing the Dy. Collector to consider and dispose of 77 applications pending before it. Therefore, in view of this, it cannot be considered as a conclusive finding in respect of environmental damage by the answering respondent No.3 as the proceeding in respect of the said report are still pending before the Dy. Collector, who has, on 17.06.2022, issued notice to the answering respondent for their response to the said report. Respondent No.3 filed its reply to the notice dated 17.06.2022 questioning the validity of the said report as the same was carried out unilaterally without affording any opportunity to respondent No.3.

21. Heard the arguments advanced by the learned counsel for the appellants as well as respondent No.3 as no other respondent made any

argument and perused the record. The learned counsel for the appellant as well as respondent No.3 have also later on submitted written submissions. We have gone through them and find that they are nothing but the same which they have already argued before us at length.

22. Our attention is drawn by the learned counsel for the appellants to page 259 of the paper-book, which are minutes of 149th meeting of the GSPCB held on 21.12.2021 wherein under specific conditions, which are given under head "A" sub clause (iv) (d), which says "Wind Shield for control of graphite particle emissions shall be provided by March, 2022", it has been urged by the learned counsel for the appellants that though the Wind Shields have been installed by respondent No.3, even then the graphite particles could not be contained in the premises and they emanate out of the unit of respondent No.3, which results in huge pollution leading to the serious health hazard of the residents of the locality.

23. Thereafter, the learned counsel drew our attention to page 2753 of the paper-book, which is a communication made by the Zonal Agriculture Officer, Sakhali – Goa, addressed to the Dy. Collector & S.D.O./SDM, Sub-Division, Bicholim, Goa dated 15.06.2022 wherein subject is mentioned as "Regarding the compensation due to loss caused by the mining companies" and Reference is "Case No. DCB/BICH/Amona-Comp/2022/254 Dtd:25/01/2022" and it is mentioned in the text of the said communication that with reference to the above, it is informed that the inspection was carried out on 08.03.2022, 09.03.2022, 14.03.2022, 15.03.2022 and 16.03.2022 by the members, whose names are contained therein, who are six in number and it was observed that the site inspection was carried out within 2 kms radius of Vedanta Ltd., Amona Naveli Goa and shining particles were observed on the leaf of the tree/plants which can also affect the photosynthetic activity of the plants

which may be one of the factors which result in reduction in the yield. Having drawn attention to it, it is vehemently urged that these shining particles are having graphite particles, which are highly injurious to human health as well as to the agricultural crops in the area.

24. Our attention is drawn to pages 2301 and 2302 of the paper-book, which is an Interim Report on AAQM at the site in question, submitted by the GSPCB, wherein in Remarks, it is recorded that "Shiny black particles were also seen settled on the instrument as well as the platforms on the said site". It is in the light of this, it is urged that it shows that clearly graphite particles are emitting out of the unit.

25. Our attention is drawn by the learned counsel for the appellants to page 2421 of the paper-book wherein it appears that summary of the order passed by the Hon'ble High Court in Writ Petition No.881/2017 has been relied upon wherein it is recorded that Dust fall measurement was carried out by the Board in the months of April to May, 2020 during which shiny particles were observed on the monitoring equipment at monitoring station located in Amona and Navelim. The issue of dust fall of graphite particles in neighbouring areas has to be effectively addressed by the Project Proponent.

26. Our attention is further drawn to page nos. 450 to 471 of the paper-book, which is Compliance Report of GSPCB with respect to compliance report of M/s Vedanta Ltd – respondent No.3 on EC issued by MoEF&CC, wherein it is recorded that Windscreens are also installed along with the raw material boundary wall. Windshields are installed at the Pig Iron dispatch yard. All the stacks are of adequate height as per the design. Dust suppression system is installed at raw material hoppers. The ambient air quality carried out by the Board in the adjoining villages of Amona and Navelim indicates the presence of shiny particles settled on the monitoring equipment which appear to be

generated from the Blast Furnace operations. The said matter is the subject of the writ petition against the company in the Hon'ble High Court of Bombay.

27. Based on this, learned counsel for the appellants urged that though the report says that windshields have been installed which are of adequate height, even then graphite particles are found confirming that windshields are not sufficient and additional measures are needed to be taken on their part to contain the dust and graphite particles.

28. Our attention is drawn by the learned counsel for the appellants to pages 2717 to 2719 of the paper-book, which contains directions issued by the Member Secretary, Goa State PCB to respondent No.3 – Project Proponent under Section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981, wherein on page 2718, direction (b) says to upgrade Air Pollution Control Devices of Pig Iron manufacturing & Metcoke divisions which are inefficient, direction (c) states to upgrade material of construction of Filter Bags to PTFE Teflon Dust Collection Bags in Bag Filters and direction (h) is to evaluate the situation correctly at work places at BF1 and BF2 and provide additional hoods similar to BF3 to avoid escape of fugitive emissions especially graphite particles from work place. Having drawn our attention to the above, it is urged that there is discharge of graphite particles from the unit of respondent No.3 and that filter bags need to be improved so as to minimize the pollution of graphite.

29. Our attention is also drawn to pages 2781 to 2785 of the paper-book, which is related to information obtained under the Right to Information Act by the appellants and it is stated that the information at page 2784 and 2785 shows that PM10 and PM2.5 are higher than prescribed standard.

30. Our attention is drawn by the learned counsel for the appellants to the final EIA assessment of the project in question and at pages 2259 to 2269 of the paper-book, wherein AAQ levels are shown in tabular form of 11 locations and out of those 11 locations, the learned counsel has drawn our attention to page 2259 wherein 26 readings are taken from the location of proposed DI pipe plant site and average reading of PM10 is recorded as 70.2 and that of PM2.5 as 30.8, which is stated by the learned counsel to be on higher side than the prescribed standards, to which from the side of respondent No.3, it was rebutted saying that as per Rule, which has already been cited by us in the pleadings of respondent No.3 above, 104 measurements, which readings are required to be taken twice a week for 52 weeks in order to come to a conclusion of annual value of any of PM10, which has not been done in this case. When we checked up the value of above PM10 and PM2.5 with the standards prescribed at page 1951, we find that an annual PM10 value should be 60 against which 70.2 is found in the present case at the above site and an annual PM2.5 is 40 against 30.8 found in the present case. This value 30.8 is below the prescribed standard.

31. Further it is argued by the learned counsel for the appellants that better technology should be adopted by the Project Proponent for containing the said pollution and by adopting green hydrogen technology by electrolysis (green hydrogen) to replace coal for the reduction of pollution.

32. The learned counsel for the appellants has relied upon the following citations:

- ***(i)*** ***Hanuman Laxman Aroskar V. Union of India (2019)15 SCC 401***
- ***(ii)*** ***Gujarat Khedut Samaj & Ors. Vs. The Secretary, Ministry of Environment, Forests and Climate Change & Ors.***

***(Appeal No.17/2016(WZ) decided by this Tribunal on 07.12.2017)***

***(iii)*** ***Save Mon Region Federation & Anr. Vs. Union of India & Ors.***

***(Appeal No.39 of 2012, decided by the Principal Bench of NGT, New Delhi on 07.04.2016)***

***(iv)*** ***Conservation Action Trust & Anr. Vs. the Ministry of Environment, Forest & Climate Change & Ors.)***

***(Appeal No.29 to 31 of 2022 (EZ), decided by the Eastern Zone Bench, Kolkata of this Tribunal on 03.04.2023)***

33. From the side of respondent No.3 – Project Proponent, in rebuttal, it is argued that all the terms and conditions given in TOR have been complied with by it. The appellant has taken reading of PM10 and PM2.5 of only two locations and that too for three months and the same has been extrapolated for the whole year because of which the same is appearing to be on higher side.

34. Our attention is drawn by the learned counsel for respondent No.3 to pages 2025 and 2026, which are conclusions drawn by NEERI wherein it is specifically recorded that the study does not point out any obvious disease related to graphite exposure. He has also drawn our attention to the same document i.e. Environmental Clearance dated 24.01.2022, which was earlier pointed out by the learned counsel for the appellant and has drawn attention to the same condition which says that Wind Shield for control of graphite particle emissions shall be provided by March, 2022 and it is submitted by him that the same has been done by them and therefore, there is no violation on the part of respondent No.3. Our attention is drawn to pages 2771 to 2780, which is inspection report by the GSPCB dated 23.06.2022 and at page 2780 at specific condition No. (iv (d), it is stated that compliance has been shown to have been done by the Project Proponent, stating that the unit has provided windshield at the plant boundary towards Amona village. It is also pointed out by the

learned counsel for respondent No.3 that the appellant's learned counsel did not draw our attention to subsequent report deliberately and that the reports which are being relied by the appellant are of earlier point in time. When the adequate measures had been taken by respondent No.3, thereafter when the inspection was conducted by the GSPCB, no emission of graphite particles was found to be there. It is further submitted by him that though windshield has already been installed of adequate height, additional measures are being taken on their part to contain the dust and graphite particles. Respondent No.3 has already engaged the services of the IIT in this regard in order to remove the graphite particles and whatever steps are suggested by it, they are being taken.

35. Thereafter, the learned counsel for respondent No.3 emphasized that this appeal is with respect to the containment of air pollution and should not be entertained by this Tribunal because the matter is already under consideration before the Hon'ble High Court of Bombay. Our attention in this regard is drawn to pages 2043 to 2051 of the paper-book and at paragraph No.10 and 11 of the Writ Petition, following submissions have been made before the Hon'ble High Court:

> *"10. The petitioner states that the last report made by the Goa State Pollution Control Board of the Pig Iron plants of the respondent No.4 and 5 for the ambient Air Quality Monitoring report was done for the period of October 2013 to May 2015 and till date for the past two years they have not made any such report to check the Ambient Air Quality.*
>
> *11. The petitioner states that in spite of complaints filed by Mr. Mangaldas Ghadi and other villagers of Amona no action is taken by the respondents till date and therefore the people of Amona and surrounding villages are suffering from serious health problems due to the Air Pollution caused by the pig iron plants of respondent No.4 and 5. The pollution generated by all sorts by release of graphite particles, toxic gases, toxic substances by the respondent no.4, 5 and 10 is still continuing and infringing the fundamental rights guaranteed under the Article 21 of the Constitution of India of all the people living in the surrounding villages of the plant operated by respondent no.4, 5 and 10."*

36. It is also highlighted that this writ petition has been filed by the same applicant who has come in appeal before this Tribunal but he conceded that as regards the challenge to EC, he has nothing to say as it is maintainable, but no relief can be claimed regarding air pollution which is under consideration before the Hon'ble High Court. He has relied on the judgment in the case of ***State of Andhra Pradesh V. Raghu Ramakrishna Raju Kanumuru; (2022)8 SCC 156***, which is at pages 512 to 517 of the compilation, wherein our attention is drawn to paragraph Nos.12 to 14, which read as follows:

> *"12. In any case, no law is necessary to state that insofar as the tribunals are concerned, they would be subordinate to the High Court insofar as the territorial jurisdiction of the High Court is concerned. A reference in this respect was also made to the judgment of the Constitution Bench of this Court in L. Chandra Kumar v. Union of India.*
>
> *13. We are, therefore, of the considered view that it was not appropriate on the part of the learned NGT to have continued with the proceedings before it, specifically, when it was pointed that the High Court was also in seisin of the matter and had passed an interim order permitting the construction. The conflicting orders passed by the learned NGT and the High Court would lead to an anomalous situation, where the authorities would be faced with a difficulty as to which order they are required to follow. There can be no manner of doubt that in such a situation, it is the orders passed by the constitutional courts, which would be prevailing over the orders passed by the statutory tribunals.*
>
> *14. In that view of the matter, we are of the considered view that the constitution of the proceedings before the learned NGT for the same cause of action, which is seized with the High Court, would not be in the interest of justice."*

37. Having drawn our attention to the above citation, it is apprised by him that since the matter in respect of air pollution is already under consideration before the Hon'ble High Court, having above position of law, this Tribunal should avoid hearing the matter of air pollution in the present case.

38. It is further emphasized by him that the EC which is granted to respondent No.3 is also subject to the outcome of the writ petition pending before the Hon'ble High Court.

39. The learned counsel for respondent No.3 has also drawn our attention to page 2139 of the paper-book, which contains the generic Terms of Reference (ToR) in respect of the industrial sector and vide Clause 6 (iii) thereof, it has been held as follows:

> "Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov.2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report."

40. Having drawn our attention to above provision, it is urged that this mandate has already been complied with by respondent No.3 in the present case.

41. The learned counsel has drawn our attention to page 2177 of the paper-book, which is relates to compliance of ToR conditions and at serial No.3, it is recorded "Baseline shall be collected afresh, shall be utilized for the EIA/EMP" and it is recorded in this respect by way of compliance that "the baseline data monitored for three months from 1st March 2019 to 31st May 2019, representing pre-monsoon season of 2019. Further, as per ADS, additional one month baseline studies were conducted from 1st October to 31st October 2021 representing part of post monsoon season and details are provided in Chapter-3". Having drawn our attention to above, the learned counsel submits that respondent No.3 has made compliance of the terms and conditions of ToR as well.

42. The learned counsel for respondent No.3 has also drawn our attention to page 2677 of the paper-book and urged that incremental GLC

level based on environmental studies should contain the details, which are contained therein.

43. Our attention is also drawn to page 2708 of the paper-book, wherein it is recorded under the head "Observations of the Committee" that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project are within NAAQ standards.

44. The reliance is also placed on the judgment in the case of ***Rajeev Suri V. Delhi Development Authority and others; (2022)11 SCC 1***, and attention is drawn to paragraph No.529 thereof, wherein it is held as under:

> *"We, therefore, upon a thorough examination, decline to interfere in the grant of EC. The expertise developed by the EAC cannot be undermined in a light manner and as noted above, due deference must be accorded to expert agencies when their decisions do not attract the taint of legal unjustness. We, however, feel the need to record that the mitigating measures must be observed by the project proponent n letter and spirit during the construction and operational phase. Waste management methods, inclusive of hazardous wastes, must be subject to regular monitoring. The construction debris must be subjected to immediate removal as per the Construction & Development Plan. The project proponent may also install permanent high-capacity smog tower as part of the Project and use adequate number of smog guns to minimise pollution levels during the construction activity is in progress on the site."*

45. In the light of above, it is urged that in the case in hand, Expert Committee has applied its mind and has looked into all the material on record and thereafter has taken a decision to grant EC. Therefore, this Tribunal should not interfere in ordinary course.

46. We are in agreement with the law laid down in the case of ***Rajeev Suri*** (supra) in totality.

47. Having heard the learned counsel for both sides, we are convinced that the EC granted in the present case does not require to be set aside by us because we find that all the measures which were required to be taken by respondent No.3 – Project Proponent, as per the ToR, have been complied with as adequate evidence in that regard has been placed on record and no infirmity in that regard could be shown by the learned counsel for the appellant.

48. It is argued by the learned counsel for the appellants that there is evidence of emission of graphite particles on the basis of which it is established that such kind of pollution is happening in the said area, but same has been rebutted by the learned counsel for respondent No.3 by saying that the said report is still under consideration and they have taken adequate measures also after the lacunae were pointed out with respect to graphite particles emanating from their unit and they have also undertaken to introduce fresh measures if at all required in the light of the report to be submitted from the side of IIT, Bombay. Moreover, we are also in agreement with the learned counsel for respondent No.3's argument that this Tribunal should not pass any order with respect to air pollution since the same is under consideration before the Hon'ble High Court. It would not be appropriate for us to pass any order with respect to air pollution, it being pending before the Hon'ble High Court.

49. As far as the citations relied upon by the learned counsel for the appellants, quoted in paragraph No.32 of this judgment, we have gone through the same, but we do not find it appropriate to refer them in the set of facts of the present case.

50. As regards cancellation of EC, we may emphasize that there is no error shown by the learned counsel for the appellant on the part of respondent No.3 – Project Proponent as all measures such as EIA study

and its appraisal has already been done in accordance with law. Therefore, we do not find any justification to quash the EC.

51. In the result, the appeal deserves to be dismissed and accordingly is dismissed. No order as to costs.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

MAY 4, 2023
APPEAL NO.18 OF 2022 (WZ)
npj